

DESK

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SIR GEORGE WILLIAMS UNIVERSITY

DO NOT
REMOVE

ARTS
SCIENCE
COMMERCE
ENGINEERING
1964 - 65

Sir George Williams University

OF THE YOUNG MEN'S CHRISTIAN ASSOCIATION OF MONTREAL

1435 DRUMMOND STREET

MONTREAL 25, QUE.

Calendar

The following is the regular calendar of

the Academic Year and Examinations.

The term and Year of the University are as follows:

Academic Year

ACADEMIC YEAR 1964-65

September 1 to June 30, 1965.

Examinations

October 15 to December 15, 1964.

January 15 to February 15, 1965.

Convocation

December 15, 1964, and June 15, 1965.

Graduation

December 15, 1964, and June 15, 1965.

Convocation

December 15, 1964, and June 15, 1965.

Convocation

December 15, 1964, and June 15, 1965.

Convocation

December 15, 1964, and June 15, 1965.

Convocation

December 15, 1964, and June 15, 1965.

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December 15, 1964, and June 15, 1965.

Convocation

December 15, 1964, and June 15, 1965.

The Faculties of

Arts, Science, Commerce,

and Engineering

Faculty of Arts

Faculty of Science

Faculty of Engineering

Faculty of Law

Faculty of Commerce

Faculty of Education

Faculty of Nursing

Faculty of Dentistry

Books

The diplomas, books and the faculty
of the basic in this announcement

UNIVERSITY OF TORONTO CATALOGUE 1922

ANNOUNCEMENT OF THE FACULTIES, DEPARTMENTS, AND
SCHOOLS FOR THE ACADEMIC YEAR 1922-1923

AND THE INSTITUTIONS

FOR STUDY AND RESEARCH

IN ASSOCIATION WITH

THE UNIVERSITY OF TORONTO

PROFESSIONAL BUREAU

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at the back of this announcement.

CALENDAR
 Academic Year 1964-65

1964

- MONDAY, JUNE 1. Summer Term begins.
- FRIDAY, JUNE 26. Last day for receiving applications for supplemental examinations.
- MONDAY, JUNE 29. Dominion Day.
- MONDAY, JULY 20. Supplemental examinations begin.
- THURSDAY, JULY 30. Last day of classes, Summer Term.
- MONDAY, AUGUST 3. Summer Term examinations begin.
- FRIDAY, AUGUST 7. Last day of examinations, Summer Term.
- FRIDAY, AUGUST 14. Last day for receiving applications for admission.
- MONDAY, AUGUST 24. Registration begins.
- MONDAY, SEPTEMBER 7. Labour Day. University closed.
- WEDNESDAY, SEPTEMBER 16. Registration closes. **N O L A T E R E G I S T R A T I O N .**
- MONDAY, SEPTEMBER 21. First term begins in Day and Evening Divisions.
- SUNDAY, OCTOBER 11. Founders Day.
- MONDAY, OCTOBER 12. Thanksgiving Day. No Lectures in Day Division.
- WEDNESDAY, NOVEMBER 11. Remembrance Day.
- FRIDAY, NOVEMBER 20. Fall Convocation.
- SATURDAY, DECEMBER 19. Last day of classes in the first term.

CALENDAR
 Academic Year 1964-65

1965

- MONDAY, JANUARY 4. First term examinations begin in Day and Evening Divisions.
- MONDAY, JANUARY 18. Second term begins in Day and Evening Divisions.
- FRIDAY, APRIL 16. Good Friday. No lectures in Day or Evening Divisions.
- SUNDAY, APRIL 18. Easter Sunday.
- SATURDAY, APRIL 17. Last day of classes.
- MONDAY, APRIL 19. Easter Monday.
- TUESDAY, APRIL 20. Final examinations begin in Day and Evening Divisions.
- SATURDAY, MAY 1. Last day of examinations.
- TUESDAY, MAY 19. Registration begins for regular nine-week Evening Division Summer Session.
- THURSDAY, JULY 28. Special six-week Summer Session, Day Division, in Geography begins.
- MONDAY, JULY 13. Special six-week Summer Session, Day Division, in Sociology begins.

Registration and Registration Dates

REGISTRATION AND REGISTRATION DATES

Before any new student may enter the classes of the university, he must do two things — apply for admission (see p. 62), and if formally notified that he has been accepted, come in to register during the time indicated in the schedule of "Registration Dates" immediately below. A clear distinction should be made between these two steps. "APPLICATION" includes submitting a request for admission accompanied by the necessary documents, and writing a series of tests (see page 41). "REGISTRATION" is a second step when those students who have been accepted by the University present themselves, in person, to discuss study programs, and to enroll in the specific courses they have selected. It includes making arrangements with the Bursar's Office for payment of fees. *Note, that except in the cases of evening students enrolling as "partial students," no student will be registered who has not been accepted by the University before the registration period begins.*

A FORMER STUDENT need not apply for admission unless he is changing faculty, transferring from "partial student" to "under-graduate," or from the evening division to the day division. Otherwise, if in good academic standing, he need only appear on the proper day for registration to select courses and pay fees.

FALL REGISTRATION DATES

All "Registration" for the fall term 1964-65 will take place according to the following schedule. (To be sure of consideration, all new students should submit their applications with their school certificates and grades as early as possible. As the University has reached its maximum enrollment, the Registrar's office will cease to consider applications as soon as it has accepted all that there will be room for in the coming year. Certainly, no application is likely to be considered after August 15th — except for partial courses in the evening). As the University is operating at maximum capacity, students who do not register on the date assigned for them may be unable to enter classes this year. Former students should note that absolutely no registration will be made after September 20th.

Registration will take place daily from 10:00 a.m. until 8:00 p.m. (Saturdays 10:00 a.m. until 12:00 noon — unless otherwise noted). Approximately 500 students will be registered daily. Appointment cards, specifying a date and time, will be mailed to each new student who has been accepted, and to each student currently registered. New "Partial Students" and former students of the University not attending during the 1963-64 session may obtain appointment cards from the Registrar's Office in August.

SCHEDULE FOR ARTS, SCIENCE, AND COMMERCE

EVENING DIVISION

Fourth year students in the EVENING DIVISION will start to register on August 24th. Registration will continue for third year, second year, and first year students until September 3rd.

New "Partial Students" will register on September 16th and 17th.

DAY DIVISION

Fourth year students in the DAY DIVISION will start to register on September 4th. Registration will continue for third year, second year, and first year students until September 15th.

SCHEDULE FOR ENGINEERING

First year, EVENING DIVISION students will register on September 2nd or 3rd.

First year, DAY DIVISION students will register on September 10th.

All other students in Engineering, DAY or EVENING DIVISIONS, will register on August 24th and 25th.

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History and Aims of the University

THE HISTORY AND THE AIMS OF THE UNIVERSITY

Sir George Williams University is a Corporation chartered by the Provincial Legislature to conduct a "University within the Province of Quebec," and empowered by that Charter to grant the appropriate degrees, diplomas, and certificates.

It is the concentration of formal education in the Montreal Y.M.C.A., and developed from the formal educational work of that Association which was inaugurated in 1873, and took the form, at that time, of unit evening courses in vocational and general educational subjects, later co-ordinated into the system known as the Y.M.C.A. schools.

In 1920, the Evening High School was inaugurated to meet the educational needs of young men employed in Montreal, and in 1926, the name Sir George Williams College was adopted, to designate from that time forward, the expanding formal educational program of the Young Men's Christian Association in Montreal. (Sir George Williams was the founder of the Y.M.C.A. in London, June 6, 1844, seven years before it was established in Canada, when, in 1851, in Montreal, the first Y.M.C.A. in North America was established.) At the same time, the College was made co-educational.

In 1928, the Association held a building campaign for \$1,500,000, part of which sum was to provide enlarged facilities for the work of the College.

In 1929, the College program was extended to include the first year of studies at the university level in Arts, Science, Commerce, and pre-Engineering, in the evenings, only. From that time onward, the growth of the institution, particularly in its university level courses, has grown yearly and rapidly. In 1931, in spite of the depression, the Junior College was organized, offering two full years of University work in Arts, Science, and Commerce, and leading to the Diploma of Associate, and in 1932, day courses were inaugurated for the first time, providing pre-professional and Associate programs of study in the same three fields. Finally, in 1934, the two year programs in Arts, Science, and Commerce were expanded to four-year curricula culminating in the award of the Bachelor's Degree in Arts, Science, and Commerce. The members of the first class graduated in 1936.

During these years the College was conducted under a Charter of the Montreal Young Men's Christian Association (consolidation, June 1888). In March, 1948, however, it was granted a Charter in its own right as a college or university (Quebec, No. 175, 12 George VI, 1948), establishing it a body corporate and politic. By special by-law of agreement, however, it still operates as the formal educational arm of the Montreal Young Men's Christian Association, and as such characteristically is still primarily concerned with young

men and women who are employed in the day and in their full development as persons, spiritually, intellectually, and socially, through the medium of its formal educational programs and related extra-curricular activities. But in spite of this emphasis and concern for its evening classes, an expanding program of full-time studies for day students is constantly being developed to meet the needs in this area. And, although Sir George Williams is fundamentally a Christian institution, and Christian education therein is of the utmost importance, its doors are open without discrimination to all those of other faiths who wish to come.

In 1952, the Association held a building campaign for \$3,300,000, the major part of which provided the college with a new building especially designed and built to accommodate its activities, hitherto housed, in its rapid expansion, in inadequate and temporary "annexes" throughout the neighbourhood. In 1956, the College occupied a new building constructed especially for its use from funds contributed by the community. Already, these new quarters are being used beyond their maximum capacity. After continuing study the university has decided to expand its facilities, and an additional building is anticipated for 1966-67. The University is still studying, intensively, its future and the ways in which it can make an even larger and better contribution to the community. A first step in this direction was made in 1957 when a three year Engineering program was added to the curriculum, and plans have been approved to expand this to a full five-year program. The fourth year of Engineering will be offered for the first time in 1966-67. In 1961, the first Honours programs were announced, and others will be announced in the future.

With its efficient new building, and without a campus, located as it is in the heart of downtown Montreal where it is most readily accessible to its students, Sir George Williams has grown over the years, not only in numbers, but in the acceptance and esteem of its community and among other institutions of higher learning. Its status was clarified on December 18, 1959, when the Provincial Legislature passed an amendment to its act of incorporation changing its name to Sir George Williams University.

The fundamental educational philosophy of Sir George Williams University is that its chief concern shall be the development of persons, through the medium of formal education and its correlated activities. It is recognized that this is not accomplished by mere rote learning. While the subject matter of the curriculum is divided into "courses" for the sake of convenience in administration, the primary aim of the University is that students shall grow in character and personality as well as in those techniques and appreciations which may be required in full and satisfactory living. The units which go to make up such growth may be conveniently classified as attitudes, abilities, and skills. It is the development of these that the University endeavours to foster in its students.

This principle is not in the least opposed to good scholarship. On the contrary, scholarship can be sound only when it is vital, when it is a living process. For example, attitudes, or ways of feeling toward individuals, institutions, and other elements of one's environment, are as much a part of a person's growth as is the attainment of information, important though this may be.

Because of varying interests, aptitudes, and vocational aims, a modern educational institution must provide a wide range of educational experiences for its students. In the University these experiences, traditionally called the "curriculum", are divided into three broad areas of life, viz.: (a) the nature of the world in which we live (the Natural Sciences), (b) the nature of man and of the society of which he is a part (the Social Sciences), and (c) the cultural heritage of thought, language, and the arts which, though it reaches back to the dawn of history, is being continuously remade in our day (the Humanities). Believing that educated people should come into intimate contact with all of these areas of life, it is provided that the academic experience of every student shall include work in each of these major fields. One attempt to accomplish this is the provision of the three exploratory or survey courses in these three fields. The emphasis placed upon the study of contemporary English literature and of modern writings in the fields of science, social science, and the arts is another indication of this point of view. A fourth division of the University curriculum (Commerce), while distinctly practical and vocational in emphasis, is related in teaching and course content to the basic philosophy of the University, since that philosophy is based on the belief that there is no genuine conflict between the learning skills and the development of persons, that if sound personal attitudes are to be developed they may be as readily developed in so-called "vocational" courses as in those that are more traditionally academic in nature. Students following the Commerce Curriculum may take a large part of their work in the other three major fields.

The members of the staff of Sir George Williams University are interested in the teaching and guidance of students, and contacts between faculty members and students are not confined to the classroom. While students are encouraged to do independent and constructive work, staff members are available for consultation.

Degrees, Diplomas and Certificates

DEGREE OF BACHELOR. The University is divided into four Faculties, Arts, Science, Commerce, and Engineering. The degrees of Bachelor of Arts, Bachelor of Science, and Bachelor of Commerce are awarded upon completion of four-year courses of study in the Day Division or the equivalent in the Evening Division. The degree of Bachelor of Engineering is awarded after the completion of a five-year program of study in the Day Division. Only the first three years of the program are offered in the Evening Division.

DIPLOMAS OF ASSOCIATE. For students who plan to spend less time in study beyond high school graduation than is required for a Bachelor's degree the University offers three two-year programmes (longer in the Evening Division) leading to the diplomas of Associate in Arts, Associate in Science, and Associate in Commerce. Work done in fulfilment of the requirements for the Associate's diploma is applicable, of course, for credit toward a degree.

DIPLOMA IN ASSOCIATION SCIENCE. This diploma is awarded to students training for the Y.M.C.A. secretaryship, for professional training taken concurrently with studies for the Bachelor's degree.

CERTIFICATE IN ENGINEERING. Students who successfully complete the three-year program in Engineering will be awarded a Certificate in Engineering.

CERTIFICATE OF CREDIT. Students taking partial programmes, i.e., those who are following one or more subjects but are not proceeding to a degree or diploma, are awarded a Certificate of Credit in each subject upon completing the required work and passing the required examination, upon request at the Records Office.

Graduation Ceremonies

The Spring Convocation is held each year around the end of May. On this occasion those who have completed their studies during the regular session of the University receive their awards. The Degrees of Bachelor, the Diplomas of Associate, the Certificates in Engineering, and the Diplomas in Association Science are all presented at the Spring Convocation. Winners of the major prizes of the University are also announced.

The Fall Convocation is held around the end of November for students who have completed degree requirements during the summer session or by means of extra examinations. Any student graduating in the Fall is considered to be a member of the Graduating Class of the following year, and is eligible for prizes, etc., at that time.

Enrollment

The total enrollment of Sir George Williams University and the Sir George Williams Schools during the regular winter session of 1963-1964 was 15,310 individual students. Of these 10,693 were in the University (Faculties of Arts, Science, and Commerce), day and evening divisions. During the summer session, 1963, there were 3,742 individual students enrolled in the University and Schools. Of these, 1,969 were in the University.

Men and Women Students

The University is co-educational, women being admitted to all courses on the same basis as are men.

Evening Division

For employed men and women who for financial or other reasons are unable to attend university by day the Evening Division of the University offers the same programmes and courses of study as are available in the Day Division.

The outlines of the various courses of study, on pages 120 to 196 of this Announcement, apply to both Day and Evening Divisions. The standard of achievement demanded of the students in the Evening Division is strictly that of the Day Division, the subject matter is the same and equal academic credit is allowed.

Partial course students also are enrolled in the Evening Division. These include all those who wish to enroll for single subjects at the college level without necessarily working toward a diploma or degree.

In 1963 Sir George Williams University offered in its Evening Division sections of several of its basic introductory degree courses in the French language. This experiment, which is being continued this year, is designed to be helpful to evening students who are able to take university work in the French language.

The introductory courses which will have French sections during the 1964-65 academic year are listed in the University Timetable for the Evening Division.

Students planning to proceed to a degree should note that since most of the University courses are given in the English language, they must show reasonable ability to follow courses in that language.

Facilities and Services

FACILITIES OF THE UNIVERSITY

Sir George Williams University and the five Sir George Williams Schools occupy a modern six story building, completed in 1956, on Drummond Street, the second and third floors of the Drummond Street Y.M.C.A. building immediately adjacent to it and five floors of a neighbouring building.

LABORATORIES. The University has laboratories with modern equipment to assist in the teaching of many subjects. There are elementary, advanced, and special-purpose laboratories for Biology, Chemistry, Physics, and Engineering. A statistics Laboratory with desk calculators serves students in Economics and Sociology, as well as others. The psychology laboratory, and the Geography laboratory, are used by students in these areas, and the draughting rooms serve several departments.

COMPUTER. The computer center has a variety of electronic equipment including an IBM 1620 computer. Students in Engineering must become familiar with computer operations, and are required to take a course in computer programming. The computer center also provides services to many University departments, particularly the Registrar's Office.

STUDIOS. Four Art studios are available for work in drawing and painting, modelling and sculpture, and all phases of fine and applied art.

CLASSROOMS. The classrooms of the University are in continuous use, day and evening. Three of these rooms bear names in honour of the late D. A. Budge, Esq., the late Abner Kingman, Esq., and the late C. T. Williams, Esq. In addition there is an auditorium seating 400 students and equipped with stage, dressing rooms, and scene shop. The auditorium is named in honour of the late Colonel Gerald Walker Birks.

LIBRARY. The library, under the direction of trained librarians, makes available a growing collection of books, periodicals, government publications and other library materials for circulation or reading room use. The reading room has accommodation for approximately three hundred students at one time.

CHAPEL. The Captain's Chapel, with its modern-romanesque architecture, stained glass and organ, provides an atmosphere conducive to quiet meditation and spiritual inspiration.

GYMNASIUM AND SWIMMING POOL. Students, on request, are entitled to Central Y.M.C.A. membership cards which provide full membership privileges to day students and limited privileges to evening students during the academic terms. In accordance with

this practice students may use the gymnasium, swimming pool and other physical facilities of Central Y.M.C.A. as members. In addition, some scheduled time in these facilities is allotted for special University programs such as Athletic Nights, inter-University contests, intramural events, etc.

RESIDENCE. Sir George Williams University is a non-residential institution, and students from out-of-town are responsible for their own living arrangements. For further information see page 44.

STUDENT GUIDANCE SERVICES

Education being considered the process of stimulating and guiding the growth of individual students, all of the incidentals of education—*instructors, courses of study, textbooks, examinations*—are valuable only in so far as they serve these ends. To help students obtain their Educational goals, the University has for many years maintained a programme of educational, vocational, and personal guidance and counselling for its students. While all members of the administrative staff and instructional staff are responsible for student guidance as a part of their duties, and while several of these members possess a background of experience in the techniques of such work, a trained counselling staff consisting of professional psychologists, is primarily responsible for the co-ordination and development of the student guidance programme.

Psychological Testing Program

All new students in the Day Division (freshmen and upperclassmen) are required, as part of the admission process, to complete a psychological testing program. This program is designed to collect information about the personalities, aptitudes, interests, and study methods of the students involved. Such information is subsequently used as a basis for academic, vocational, and personal counselling and guidance.

Guidance

In recognition of the varying interests, aptitudes, and vocational aims of its students, the University has for many years maintained a programme of educational and vocational guidance. Extensive use is made of methods for determining a student's aptitudes, abilities, interests, and other personality characteristics. All students are encouraged to contact the Student Guidance Service early in their academic careers concerning orientation to university work, problems involving study habits, selection of suitable courses of study, and the choice of a vocation. Counsellors are prepared to assist students with such problems at any time.

Guidance Library

A special reference library of psychological and vocational information is maintained as a supplement to the student guidance services. This library includes information on personal and industrial applications of psychology, various vocational fields, techniques of improving verbal skills, and many other topics. There is also an extensive section, known as the Careers Library, providing comprehensive up-to-date information on a wide variety of professional, industrial and business vocations.

Effective Reading

As a service to students whose problems stem from poor reading and study habits, the University offers a programme of training in effective reading techniques. Designed to improve reading skill in all its aspects, the course consists of a series of 16mm films, tachistoscopic training, and drill exercises for directing attention to comprehension and critical reading. This course is given as frequently as possible during the year for both Day and Evening Students.

Personal Counselling

It is not unusual that, during the time spent in gaining an education, a student may be faced with a complex personal or emotional problem. Although these problems may not directly involve university studies, they may have a serious effect on them. Since such difficulties have a direct bearing on the development of the student as a person, the University offers whatever assistance it can. Both psychological and psychiatric counselling are provided.

Placement

In co-operation with the National Employment Service, a Placement Office with two full time officers is provided for students of the University. Through this Office the full resources of the National Employment Service are made accessible to all students seeking part time employment during the academic year, employment during the summer and employment upon graduation.

Students and their parents are urged to take full advantage of these services.

University Bookstores

All books and supplies required may be purchased at the University Bookstore. Students should consult a book-list at the University Bookstore and be sure of the edition required before buying books. The Paperback Bookstore has nearly three thousand titles in stock for supplementary reading lists.

Student Organizations

Student Government

Athletics & Physical Education

Student Services

Financial Aid

Graduates

INFORMATION OBTAINABLE FROM THE ASSISTANT DEAN STUDENTS

EXTRA-CURRICULAR ACTIVITIES

Office of the Assistant Dean (Students)

This office, through its administrative officers, has University responsibility for certain non-academic aspects of student life. These include the extra-curricular program, physical education and athletics, certain personnel services, scholarships, bursaries, and financial aid to students.

Housing

The University prepares a list of rooming houses, apartments and homes that are available for students from outside Montreal. For information about these accommodations, students should contact the Student Affairs Office during September or early October.

Health Service

The University maintains an equipped First Aid Room staffed by a registered nurse.

The students are entitled to the service of the nurse when ill. Serious cases are referred to a physician of the student's choice, or to local hospitals.

Insurance: In co-operation with the Students' Undergraduate Society, the University has made available a voluntary Student Accident Plan for all day students. The details of the plan are mailed to students each year.

Health Certificate: As all new day undergraduates are required to submit a health certificate, a permanent health record is maintained in the Health Service.

Residence

Sir George Williams University is a non-residential institution and students from out-of-town are responsible for their own living arrangements.

Men: Some men students may reside in the Y.M.C.A. dormitory which occupies the building adjacent to the University. A limited number of rooms is available at a special student rate for full time day students during the academic year. Information about such reservations should be obtained in advance from the Residence Secretary, Central Y.M.C.A., 1441 Drummond Street, Montreal, Quebec.

Women: The residences of the Montreal Y.W.C.A. or the Julia Drummond Residence, within walking distance of the University, are recommended for women students. Particulars may be obtained from the Institutional Manager, Y.W.C.A., 1355 Dorchester Street West, Montreal, Quebec, or the Superintendent of the Julia Drummond Residence, 1208 St. Mark Street, Montreal, Quebec.

Overseas and Out-of-Town Students

In 1963-64, there were 228 students from 26 countries registered at the University in addition to 222 Canadian students from outside Montreal. Emphasis is placed upon the integration of these students into the student body, and there is a program of orientation to Canada for those students from other countries.

Student Organizations

The University encourages and supports student activities and organizations in the belief that through such endeavours and associations much real benefit may accrue to students. The Students' Undergraduate Society in the Day Division, and the Evening Students' Association in the Evening Division, are responsible for the initiation and control of a wide range of student programs of both a cultural and social nature. Students are free to choose the number and kinds of activities in which they wish to participate. However, it is the responsibility of the student to exercise the privilege of freedom in the best interests of the University.

Student Government

The primary purpose of student government is to provide students with the means to regulate student-sponsored activities, organizations, publications, and any other matters properly subject to their jurisdiction. Individual participation in a leadership capacity is regulated by the academic requirements stipulated in the student constitutions, and by the University.

Student Publications

All student publications, including the weekly newspaper "THE GEORGIAN", are financed out of the Students' Activity fee and are under the jurisdiction of the student government.

Dramatics and University Choir

Students are encouraged to participate in the University Choir, and the "GEORGIAN PLAYERS". These organizations have professional supervision and direction.

Annual Seminar on International Affairs

Each year, early in the academic term, the Student Societies sponsor a seminar on a topic of international importance. This programme attracts university delegates from all over the world and presents a number of prominent speakers. Sessions of the seminar are open to the students of the University.

Athletics

The University is a member of the Ottawa-St. Lawrence Inter-collegiate Athletic Association, and the Canadian Intercollegiate Athletic Union. Representative teams in most sports are sponsored, and participation in intercollegiate athletics is encouraged. A regular program of intramural sports is conducted each year, and special interest activities such as curling, bowling, badminton, swimming, fencing, etc., are encouraged. The program is governed by the University Athletic Council which has representation from the student body, the Faculty Council, the Association of Alumni, and the University Board of Governors.

Eligibility

Participation in inter-collegiate athletics is dependent upon satisfactory academic performance, and students may not compete for outside organizations without written permission from the Athletic Council. These regulations are academic in nature, and are designed to prevent a student from being involved in a programme which is detrimental to his scholastic progress.

Responsibility of University

While every reasonable precaution will be taken to prevent accidents, students are reminded that participation in athletics and other curricular or extra-curricular activities in the University is entirely at their own risk. The University accepts no responsibility for the loss of personal effects.

World Service

As part of the world-wide movement of the Young Men's Christian Association, organized in about 70 countries in all parts of the world, the University participates each year in the support of the World Service Fund of the Association. This fund is used to assist the indigenous Y.M.C.A. movements in about 26 countries which require aid from the International Committee. Once each year, a "WORLD SERVICE WEEK" is held in the University, during which students, staff, Board of Governors, and other interested friends are given the opportunity of making a voluntary contribution in aid of this important work.

The Garnet Key Society

The Garnet Key Society is an Honour Society instituted to represent the University as hosts at special events; to orient students to University life; and to provide general assistance to the University and its legally constituted entities.

A Garnet Key Society member may be identified by uniform while on duty. Male members wear a Garnet jacket, white trousers, and Garnet Key tie, while female members wear a white blazer and Garnet skirt.

GRADUATES

ASSOCIATION OF ALUMNI: The Association of Alumni was organized by the first graduating classes of the University in 1937, to perpetuate the fellowship established in their years at the University, to preserve an interest in education, and to work extramurally for the welfare of the University. Each University undergraduate automatically becomes a member upon graduation and eligible for all the benefits of membership. The Association publishes a quarterly magazine — "THE POSTGRAD" — which is sent to all members and any others interested in the University, and is always ready to give assistance or advice to any undergraduate or graduate.

STUDENT LOAN FUND. The Association of Alumni Student Loan Fund grants financial assistance to students. These loans are based solely on the student's financial need. All loans are repayable within two years of graduating from or leaving the university, or if the student continues his studies elsewhere, upon graduating from or leaving that College or University to which he may transfer.

KENNETH E. NORRIS MEMORIAL LECTURES. In 1961, the Association of Alumni, in co-operation with the University and the Student Societies inaugurated an annual series of guest lectures by outstanding men of our time in memory of the late Kenneth E. Norris, Principal of Sir George Williams College from 1936 to 1956.

FURTHER ALUMNI INFORMATION FROM MR. J. F. FERGUSON, EXECUTIVE DIRECTOR, ALUMNI.

Scholarships

INFORMATION OBTAINABLE FROM THE ASSISTANT DEAN, STUDENTS.

SCHOLARSHIPS AND BURSARIES

The Mount Royal IODE Scholarship: To be awarded to a second year Science student at the end of the 1964-65 academic year. The student must be Canadian by birth. The award will cover tuition and related University fees during the three years leading to the Bachelor of Science degree providing satisfactory academic progress is made each year by the student.

Abner Kingman Scholarships: In the evening division only, five scholarships of \$50.00 each, endowed by personal gift of the late Abner Kingman in 1928, awarded annually to students who have attended the University for at least one academic year and who show great promise.

D. A. Budge Memorial Scholarships: In the evening division, a series of scholarships in memory of the late D. A. Budge from the bequest of the late W. G. Cheney, tenable in Sir George Williams High School. Four of these scholarships are tenable in the first year of the University in the evening division, on the basis of work done in the final year of the High School.

Birks-Beaton Memorial Scholarship: Established by the Metropolitan Board of the Montreal Y.M.C.A. in memory of the late Gerald W. Birks, President of the Young Men's Christian Association of Montreal from 1922 to 1950 and the late John W. Beaton, General Secretary from 1920 to 1951. This Scholarship of \$150.00 is to be awarded annually, when merited, to a Y.M.C.A. fellowship student on the basis of academic standing after having completed at least one year at Sir George Williams University.

Birks-Beaton Memorial Bursary: This Bursary of \$150.00 is awarded annually, when merited, to a Y.M.C.A. fellowship student in his or her first year at the University by the Metropolitan Board of the Montreal Y.M.C.A. It is established in memory of the late Gerald W. Birks, President of the Young Men's Christian Association of Montreal from 1922 to 1950 and the late John W. Beaton, General Secretary, from 1920 to 1951.

John W. Ross Memorial Scholarship: In the day division, this Scholarship is established by the family of the late John W. Ross, President of the Young Men's Christian Association of Montreal from 1905 to 1915. \$150.00 is awarded annually to a Y.M.C.A. fellowship student on the basis of academic standing after having completed at least one year at Sir George Williams University.

The Montreal Hi-Y Scholarship: A Scholarship of \$150.00 per year, for a maximum of a four year period, is to be offered annually to a Montreal high school graduate who has been, in his or her final year at high school, an active member of a Hi-Y Club. Selection will be based on academic standing, activity and service in Hi-Y and leadership potential. Applications for this Scholarship must be submitted before August 15th each year.

Sir George Williams University Memorial Scholarship: In the day division, this Scholarship was established by the Veterans' Society and other students of Sir George Williams University in 1949, and maintained by them in subsequent years. A four year Scholarship, covering tuition fees, for courses at Sir George Williams University in the faculties of Arts, Science, or Commerce, for a son or daughter of a serviceman or servicewoman of the Canadian Armed Forces who died during or due to World War II (1939-1945). A student receiving this Scholarship in his first year will receive it in subsequent years provided he maintains the required standards.

Children of War Dead (Education Assistance) Act provides fees and monthly allowances for children of veterans whose death was attributable to military service. Enquiries should be directed to the nearest District Office of the Department of Veterans Affairs.

National Council of Jewish Women of Canada Bursaries: In the day and evening divisions bursary awards are provided according to financial need. It is expected that students will undertake to repay grants after graduation.

National Council of Jewish Women (Montreal Section) Scholarship: Awarded annually, at the discretion of the University Scholarship Committee, to an undergraduate student in the evening division of the Arts faculty who has achieved scholastic standing and is in need of financial assistance. The amount of this award is \$100.00.

P.E.O. Scholarship: In the day or evening division, a Scholarship of \$50.00 is awarded annually to a student in any year who demonstrates scholastic ability and has the need of financial assistance to pay tuition fees.

The Hugh Millar Scholarship Fund: The sum of \$500.00 is made available to day or evening Engineering students, in any year, who have good academic achievement and who need financial assistance to pay for tuition fees. Applications must be submitted before May 15th.

The Hugh Millar Loan Fund: The sum of \$500.00 is made available to day or evening Engineering students, in any year, who have good academic achievement and who need financial assistance to pay tuition fees. This loan is repayable after graduation from the University in accordance with regulations established for the University Loan Fund. Application forms may be obtained from the Bursar's Office.

Riddell, Stead, Graham and Hutchison Service Award: Awarded annually to a third year Commerce student entering fourth year with the intention of continuing studies with a practising firm of Chartered Accountants on graduation. The award, consisting of payment of tuition and other fees for the final year, will be made, on recommendation of the Dean of Commerce. Application should be made not later than February 28.

Malcolm Jacob Weiner Memorial Scholarship: A sum of \$50.00 available annually for the tuition of any needy student at Sir George Williams University.

Professor John Hughes Scholarships: In the day division two Scholarships of \$250.00 each to be awarded annually to two students with high scholastic standing in Arts or Science. Awards to be made by the Scholarship Committee on the basis of merit and not by application.

The IBM Thomas J. Watson Memorial Bursary Programme: IBM makes available \$1,000.00 annually to each of a number of Canadian universities to provide undergraduate bursaries which are known as the IBM—Thomas J. Watson Memorial Bursaries. The objective of the Programme is to provide financial assistance to needy undergraduates in any year of any faculty who are of good academic standing.

The Mitsu Tamura Tani Memorial Bursary: In the day and evening divisions, a fund of \$100.00 per annum to be awarded to help a deserving and needy student whose life-work is in the field of service to mankind.

L. W. Anderson Scholarships and Bursaries: In the day and evening divisions, a fund of \$500.00 per annum to be awarded at the discretion of the Scholarship Committee on the basis of need and academic standing.

Norman P. Woods Scholarships and Bursaries: In the day and evening divisions, the sum of \$100.00 per annum to be awarded at the discretion of the Scholarship Committee on the basis of need and academic standing.

F. B. Walls Scholarships and Bursaries: In the day and evening divisions, a fund of \$1,000.00 per annum to be awarded at the discretion of the Scholarship Committee on the basis of need and academic standing.

J. H. Andrews Limited Scholarship: In the day division, a sum of \$1,000.00 to be awarded to a student who has completed the first year of the Commerce degree curriculum. The award is to be distributed over the remaining three-year period of study. Satisfactory scholastic standing will be expected at the end of each academic year. The recipient must be a Canadian citizen.

Zeller's Scholarships: In the day and evening division, two scholarships of \$100.00 each, to be awarded on the basis of high scholastic achievement in the third year of the Commerce degree curriculum.

The John Crawford (NOMA) Bursary: \$100.00 will be awarded annually as a bursary to a deserving student in the evening division of the Commerce Faculty in memory of the late John Crawford, Charter Member and First President, 1938-40, Montreal Chapter, National Office Management Association, International

President, 1941-42, N.O.M.A., lecturer at Sir George Williams University for many years, and who showed an interest and devotion to matters of education worthy of special recognition by his associates in N.O.M.A.

The Maynard Metcalf Scholarship: In the day division, a scholarship of \$100.00 awarded to a student in any year or faculty for outstanding scholastic achievement during the preceding academic year.

Royal Albert Lodge Scholarships: The sum of \$400.00 to be awarded as Scholarships or Bursaries to a) Children of members of the Royal Albert Lodge b) Children of members of other Masonic Lodges c) If neither a) nor b) qualify, any worthy student may apply and receive the Scholarship or Bursary at the discretion of the University.

Consolidated Paper Corporation Limited and Subsidiaries Scholarships: In recognition of the importance of assisting youth who have the required ability and qualities of leadership and to defray expenses required to obtain a university education, an annual Scholarship of \$500.00 tenable for four years is awarded to an entering day student in the faculty of Arts or Commerce. Preference will be given to the son, daughter or legal ward of a permanent (or deceased), employee of the Corporation.

The Building Trades Joint Committee Scholarship: A five year scholarship is available to a student entering into the faculty of Engineering. This award covers full tuition fees for five years subject to a satisfactory academic standing. Applicants must be the sons of employees or employers engaged in the construction industry in the District of Montreal.

Touche, Ross, Bailey and Smart Scholarship: This Scholarship is in the amount of \$200.00 and will be awarded annually to a student who is completing his third year and will be entering his final year, majoring in Accountancy in the faculty of Commerce, and who intends on graduation to pursue the qualification of Chartered Accountant. The award will be made by the Scholarship Committee on the basis of academic record, ability, personality and other suitable characteristics. Application should be made before February 28.

Montreal-Westward Rotary Club Student Loan Fund: In the day division, loans are available, without interest, to any worthy student of Notre Dame de Grace, Montreal West, Ville La Salle, Ville St. Pierre and Lachine, who is not otherwise able to meet the expenses of a university education. All loans are to be paid back in monthly installments, commencing six months after graduation.

Max Cohen Scholarships: In the day division, two Scholarships of \$150.00 each awarded to a needy student with academic achievement beginning or during his first year.

Hugh Nourse Bursaries: In the day division, 5 bursaries of \$50.00 each to be awarded to students on the basis of need and academic standing. These bursaries are only available to students outside of Canada and the United States.

The S. H. McNeilly Bursary: A \$75.00 bursary is available annually to a student who is employed by the Canadian Pacific Railway Company. This bursary is awarded to an evening student in the second year of any faculty of the University based upon scholastic achievement and need.

The Birks Family Foundation Bursaries: The bursaries are available to students recommended by the University, in any Faculty. They may be renewed annually until graduation, to successful students. The number and amount of awards may vary from year to year depending on the funds available from the Foundation.

Dominion Rubber Co. Ltd. Scholarship Fund: In the day division, Scholarship awards are provided on the basis of need and academic standing to students who have completed at least two years at university. It is expected that students will undertake to repay 25% of the aid received after graduation.

Ross High School Scholarship: The sum of \$400.00 is made available to a day student in Arts, Science or Commerce on the basis of high scholastic standing. This Scholarship is awarded annually at the discretion of the University Scholarship Committee.

Henry I. Chinks Memorial Scholarship or Bursary: Awarded annually to an evening student who has completed one academic year at this University and is working towards a degree in the field of Chemistry (B.Sc.). Awarded on the basis of need and academic standing.

Alvin J. Guttman Memorial Scholarship: A scholarship of \$100.00 is available annually to a student from Africa or Asia. This scholarship is awarded at the discretion of the University Scholarship Committee.

Birks Family Foundation Student Aid Fund: A sum of \$100.00 is available annually at the discretion of the University Scholarship Committee.

University of Oslo (Summer School) Scholarship: A \$400.00 summer school scholarship is available annually to a student who wishes to study in Norway from June 29th to August 9th, 1964. The deadline date for application is March 15, 1964.

Mr. and Mrs. Percy Caplan Scholarship or Bursary: A \$100.00 scholarship or bursary is available to a student in any year who achieves academic standing and is in need of financial assistance. Awarded at the discretion of the University Scholarship Committee.

Entrance Scholarships (Day Division): Designated for students with high scholastic standing, three Kenneth E. Norris Memorial Scholarships will be awarded each year to entering first year students. Awarded on a competitive basis, each of these Scholarships will have a value of \$500.00 a year for a total of \$2,000.00 through the undergraduate programme. The application deadline is August 15th.

Continuation Scholarships: In the day and evening divisions, twenty scholarships and bursaries are provided for students who, having completed one academic year at the University, have need of financial assistance. These awards will pay for half the tuition fees in the case of a scholarship and one third-the tuition fees in the case of a bursary.

THE UNIVERSITY UTILIZES A BASIC APPLICATION FORM FOR ALL SCHOLARSHIPS AND BURSARIES. THIS FORM CAN BE OBTAINED FROM THE OFFICE OF THE ASSISTANT DEAN, STUDENTS, AND MUST BE SUBMITTED BEFORE MAY 15th, EACH YEAR.

Province of Quebec: The Province of Quebec has an extensive programme of bursary-loan assistance available to Canadian citizens who are residents of the Province of Quebec. Information from:

Mr. Edmond Tanguay,
Superintendent,
Bursaries Division,
39 St. Louis Street,
Quebec 4, Quebec.

Province of Ontario: An information release concerning Province of Ontario Student-Aid Loans and Bursaries is available through the office of the Assistant Dean, Students.

GRADUATE SCHOLARSHIPS

Imperial Order Daughters of the Empire War Memorials I and II: In order to perpetuate the memory of the men and women who gave their lives in the defense of the Empire in World Wars I and II, the Imperial Order Daughters of the Empire established these memorials, of which the leading feature is postgraduate scholarships (Overseas). Each Scholarship is of the value of \$2,000.00 a year. The Order expects that all who hold these Scholarships will return to Canada and work here after the completion of their work in a British university. The Scholarship is awarded by a committee of selection appointed in each province. Applications must be submitted by October 15th to the I.O.D.E. Provincial Educational Secretary.

Commonwealth Scholarship: Under a plan drawn up at a conference held in Oxford in 1959, each participating country of the Commonwealth offers a number of scholarships to students of other Commonwealth countries. These scholarships are mainly for graduate study and are tenable in the country making the offer. Awards are normally for two years and cover travelling, tuition fees, other university fees, and a living allowance. For details of the awards offered by the various countries consult the Registrar's Office or write to the Canadian Universities Foundation, 77 Metcalfe St., Ottawa, Ontario.

Rhodes Scholarships: Two Rhodes Scholarships are tenable at the University of Oxford, England, to male Canadian citizens or British subjects with at least five years' domicile in Canada. Candidates for this Scholarship must be unmarried, and must have completed two years of study at a university in Canada.

The Canadian Federation of University Women Fellowships: The Travelling Fellowship (\$2,500.00) and the Margaret McWilliams Fellowship (\$2,000.00) are open to any woman holding a degree from a Canadian University, whose domicile is in Canada (although she may be studying elsewhere at the date of application) and who wishes to do postgraduate study or research outside Canada. Preference will be given to candidates who have completed one or more years of graduate study and who have a definite course of study or research in view.

The Junior Fellowship (\$1,500.00) is open to any woman holding a degree from a Canadian University who is not more than twenty-five years of age at the time of award and whose domicile is in Canada. Preference will be given to students who have studied in only one university and who wish to continue their studies in another.

The Professional Fellowship (\$1,500.00) is open to any woman holding a degree from a Canadian University, whose domicile is in Canada. Preference will be given to candidates who have completed one or more years of professional work and who wish to spend a year at an accredited Library School, College of Education, or similar professional school.

Applications for these fellowships should be submitted to the Canadian Federation of University Women, 100 Bloor Street, Toronto, Ontario, Canada. Applications for the Junior and Professional Fellowships should be submitted to the Canadian Federation of University Women, 100 Bloor Street, Toronto, Ontario, Canada. Applications for the Travelling and Margaret McWilliams Fellowships should be submitted to the Canadian Federation of University Women, 100 Bloor Street, Toronto, Ontario, Canada.

UNIVERSITY SCHOLARSHIPS AND AWARDS TO SENIOR STUDENTS

Le Prix Villard, founded by subscription in the Faculty of Law of the University in 1944-45, was established to honour the memory of Dr. Paul Villard, by one of his former students, Mr. John Miller.

Le Prix Villard, founded by subscription in the Faculty of Law of the University in 1944-45, was established to honour the memory of Dr. Paul Villard, by one of his former students, Mr. John Miller.

The Sir J. L. D. MacLennan Travelling Fellowship is open to Canadian citizens or British subjects who are members of the Faculty of Law of the University. This prize was established by the colleagues of Sir J. L. D. MacLennan, founder of the Faculty of Law of the University, in 1947.

The Sir J. L. D. MacLennan Travelling Fellowship is open to Canadian citizens or British subjects who are members of the Faculty of Law of the University.

Prizes

The Canadian Library Association Prize in Library Science, established by the Canadian Library Association in 1947, will be awarded annually to a Canadian citizen or British subject holding a degree in library science or a related field, or a graduate of a college or university, who has done outstanding work in the field of library science. The C.L.A. Prize in Library Science is open to all students registered in the evaluation program with the Canadian Library Association, either in the Undergraduate or Graduate Library Science program, or to any person who has done outstanding work in the field of library science.

The Canadian Library Association Prize in Library Science, established by the Canadian Library Association in 1947, will be awarded annually to a Canadian citizen or British subject holding a degree in library science or a related field, or a graduate of a college or university, who has done outstanding work in the field of library science. The C.L.A. Prize in Library Science is open to all students registered in the evaluation program with the Canadian Library Association, either in the Undergraduate or Graduate Library Science program, or to any person who has done outstanding work in the field of library science.

The Systems and Procedures Association Prize, founded by the Systems and Procedures Association in 1947, will be awarded annually to a Canadian citizen or British subject holding a degree in library science or a related field, or a graduate of a college or university, who has done outstanding work in the field of library science.

The Systems and Procedures Association Prize, founded by the Systems and Procedures Association in 1947, will be awarded annually to a Canadian citizen or British subject holding a degree in library science or a related field, or a graduate of a college or university, who has done outstanding work in the field of library science.

PRIZES

The Birks Medal awarded annually, when merited, by Henry Birks & Sons (Montreal) Ltd., to the highest ranking graduating student in Arts.

The Mappin Medal awarded annually, when merited, by Mappin's Ltd. of Montreal to the highest ranking graduating student in Science.

The Charles E. Frosst Medal awarded annually, when merited, by Charles E. Frosst & Co., to the highest ranking graduating student in Commerce.

The Morris Chait Memorial Prize in Engineering, awarded annually, when merited, to the highest ranking student completing the Certificate in Engineering programme.

The Board of Governors Medal for Creative Expression awarded annually, when merited, by the Board of Governors of the University to the student or students giving evidence of outstanding ability in creative expression in the fine arts,—creative writing, oratory, drawing, painting, drama, or music.

First Graduating Class Award. The first graduating class of the Faculty of Arts, Science and Commerce, known as the Guinea Pig Club, a name symbolic of their pioneering experience, makes a presentation, when merited, to the student who is adjudged to have made the most outstanding new contribution, either academic or extra-curricular, to the student life of the University.

Association of Alumni Award awarded annually, when merited, to the graduating student, who, in the opinion of the Faculty Council of the University, has by his activities, achievements, and interest, during his term at the University, won the outstanding commendation and respect of his fellows and of the faculty.

Governor-General's Medal. A medal, presented by His Excellency the Governor-General of Canada, will be awarded annually to the graduating student showing the highest achievement in the field of English language and literature.

The Lieutenant-Governor's Silver Medal for History: Awarded annually, when merited, to the student with the highest standing in the History Major.

The Lieutenant-Governor's Bronze Medal for Mathematics and Physics: Awarded annually, when merited, to the student with the highest standing in the major in Mathematics and Physics.

Le Prix Villard founded by the students in the French Classes of the University in 1942-43 "pour récompenser, chaque année l'étudiant qui s'est le plus intéressé et distingué dans l'étude de la langue et de la littérature françaises," and continued since his death, as a memorial to the late Dr. Paul Villard, by one of his former students, Mr. Yves Gallet.

The J. W. Bridges Medal for Psychology: Awarded annually, when merited, to the student with the highest standing in Psychology. This prize was established by his colleagues of the Faculty to honor the outstanding contribution of Dr. J. W. Bridges, Professor Emeritus and former Chairman of the Department of Psychology.

The Sun Life Prize in Economics awarded annually, when merited, by the Sun Life Assurance Company of Canada, to the graduating student with the highest standing in the Economics Major.

The Canadian International Paper Company Prize in Biology, a cash prize of \$100.00 to be awarded annually, when merited, to the graduating student with the best record of work in the field of Biology.

The C.I.L. Prize in Chemistry, a cash prize of \$50.00 to be awarded to the graduating student with the highest standing in Chemistry courses.

Merit Award, The Society of Chemical Industry—Canadian Section, awarded annually, when merited, to the student majoring or honouring in chemistry with the highest standing in the final year of this course.

The Chemical Institute of Canada Prize awarded annually to the best third year student entering fourth year and majoring in Chemistry.

Hebrew Culture Organization of Canada Prizes, Samuel Kizell Memorial Prize of \$50.00 awarded annually, for excellence in the study of the Hebrew language.

An additional prize of \$50.00 awarded annually, for excellence in the study of the Hebrew language.

The Systems and Procedures Association Prize, awarded annually to the students who attain highest standings in each of Developing Effective Systems and Procedures, and Integrated Data Processing.

The Investment Dealers Association of Canada Medal, awarded annually to the student who obtains the highest standing in Corporation Finance.

Admission and Advanced Standing

INFORMATION OBTAINABLE FROM THE DIRECTOR OF ADMISSIONS

ADMISSION TO THE UNIVERSITY

Classification of Students

(1) UNDERGRADUATES: Undergraduates are students who, at the time of registration, meet the full admission requirements to the University and enrol with the intention of completing the work required for a degree or diploma. If the student is ultimately proceeding towards a degree, he will be classified as an undergraduate whether he be taking several subjects or only one in any given year.

(2) PARTIAL COURSE STUDENTS: Students who at the time of registration do not expect to proceed to a degree or diploma are classified as partial course students irrespective of the number of subjects they may be following in any given year. Students who register as partial students are not considered to have matriculated and have no standing towards any degree at the University. If a partial student later transfers to undergraduate standing, he may receive credit towards his degree for the courses already taken, but only in so far as these courses will apply towards the degree requirements at the time of transfer.

REQUIREMENTS FOR ADMISSION TO UNDERGRADUATE STANDING IN THE UNIVERSITY

The University reserves the right to refuse admission even when the stated requirements for entrance have been satisfied.

All applicants are required to submit evidence of facility in English. The following evidence is acceptable: (a) The High School Leaving Certificate (or equivalent) (b) Certificate of Proficiency in English issued by the Universities of Cambridge or Michigan, or satisfactory achievement in the University of Michigan English Language Test.

In addition to the requirements listed below, a student seeking admission to the Day Division must present a High School Principal's Report and a Medical Examination Report, and must take a series of tests administered by the Guidance Office of the University (see page 41).

(1) ADMISSION TO UNDERGRADUATE STANDING IN ARTS: Students must present satisfactory proof of graduation from high school with an average of at least 60% on ten papers on the Quebec High

School Leaving examinations, or the equivalent, including papers in English Literature and Composition. Applications for the fall term must be submitted by August 24th.

(2) ADMISSION TO UNDERGRADUATE STANDING IN SCIENCE: Students must present satisfactory proof of graduation from high school with an average of at least 60% on ten papers on the Quebec High School Leaving examinations, or the equivalent, including papers in English Literature and Composition, Algebra, Geometry, and at least one Science. Applications for the fall term must be submitted by August 24th.

(3) ADMISSION TO UNDERGRADUATE STANDING IN COMMERCE: Students must present satisfactory proof of graduation from high school with an average of at least 60% in not fewer than ten papers on the Quebec High School Leaving examinations, or the equivalent, including papers in English Literature and Composition, and Algebra. Applications for the fall term must be submitted by August 24th.

(4) ADMISSION TO ENGINEERING: Students must present satisfactory proof of graduation from high school with an average of at least 60% on ten papers on the Quebec High School Leaving examinations, or the equivalent, including papers in English Literature and Composition, Algebra, Geometry, and at least one Science. Applications for the fall term must be submitted by August 24th.

(5) ADMISSION ON MATURE MATRICULATION: Persons over 21 years of age who have not satisfied the technical requirements for high school graduation but who have the capacity to do university work may be admitted on a conditional basis as undergraduates in Arts, Science, Commerce or Engineering by fulfilling the Special Entrance Requirements for Persons over Twenty-one Years of Age. Details regarding these requirements may be obtained from the Registrar's Office.

(6) REQUIREMENTS FOR ADMISSION TO THE UNIVERSITY AS A PARTIAL COURSE STUDENT: In the case of students wishing to enroll for partial courses or unit subjects in the Evening Division, high school graduation is expected but may be waived for students over twenty-one years of age except in the case of those subjects in which successful university work is absolutely dependent upon preliminary work in the same subject taken at the high school level. Certain unit courses in the University, however, are not dependent upon work completed in the high school. Students wishing to register for such unit courses, as Partial Course Students, are required, therefore, only to be over twenty-one years of age

and to have had through other experience the essential background for the course. Although the University will follow this policy of admission of Partial Students, it reserves the right of decision as to the student's eligibility for each separate course applied for, and the right to ask for proof of High School Graduation in certain cases.

While such partial course students and students following single courses of interest are expected and encouraged in the Evening Division of the University, priority will be given to fully matriculated students proceeding towards one of the diplomas or degrees.

Sir George Williams High School

Applicants for admission to the Faculties of Arts, Science, Commerce, and Engineering whose entrance certificates do not quite meet the requirements, may make up the deficiency in the Evening High School, before entering the University.

LIST OF EQUIVALENT CERTIFICATES

The following certificates are accepted as fulfilling the requirements for entrance to the first year of the University provided that a standing equivalent to 60% average on the Quebec High School Leaving Certificate is indicated.

Province of Quebec

- a. The High School Leaving Certificate (Protestant or Catholic). (A grade 12 certificate is required from the French-Speaking High Schools).
- b. The Graduation diploma of Sir George Williams High School.
- c. The Junior School (or Matriculation) Certificate of the several Universities.
- d. The Graduation diplomas of certain secondary schools.
- e. Completion of "Rhetorique" in one of the classical colleges.

Other Provinces of Canada

- a. NEWFOUNDLAND: The Grade XI Public Examination Diploma.
- b. NOVA SCOTIA: The Grade XI Certificate.
- c. PRINCE EDWARD ISLAND: The Second Year Certificate, Prince of Wales College.
- d. NEW BRUNSWICK: Junior Matriculation or High School Leaving.
- e. ONTARIO: The Upper School Certificate, or Grade XIII. Students holding this certificate will be admitted to the second year of courses in the University. Students from Ontario who hold *only* the Middle School Certificate will not normally be accepted.
- f. MANITOBA: The Grade XI Certificate.
- g. SASKATCHEWAN: The Grade XI Certificate.
- h. ALBERTA: The Grade XII Certificate. Students holding this certificate will be admitted to classes in the second year of the University. Students holding *only* the Grade XI Certificate from Alberta will not normally be admitted.
- i. BRITISH COLUMBIA: Junior Matriculation Certificate.

United States

- a. The Board of Regents Certificates, State of New York.
- b. The graduation diploma of accredited High Schools.

Other Certificates

Certificates other than those mentioned above may be submitted to the Director of Admissions for examination and evaluation.

Special Examinations

Normally, students will not be permitted to write examinations for courses for which they are not registered at the University. Under special circumstances, in order to validate certain courses for which proper certificates are not available, students may be permitted, by approval of Faculty Council, to obtain credit for such courses upon the writing of a special examination.

APPLICATION FOR ADVANCED STANDING

Students who wish to apply for advanced standing upon the basis of work already completed in other colleges or universities should understand the following conditions:

1. Each application for advanced standing is considered individually, on its merits. Official transcripts must be mailed directly from the former university attended before the advanced standing can be considered.

2. A student presenting evidence that he has completed one year of university work elsewhere will normally be admitted to the second year at this University. It is provided, however, that if such a student's first year selection of subjects has not coincided with the major curricular requirements of the University, the deficiency must be made up in the second year.

3. A student presenting Senior Matriculation, Senior High School Leaving, or Upper School Certificates, will, in general, be given credit for the first year, course for course, for subjects completed. The University however may require certain courses not included in these certificates to be made up in the second year.

4. A student transferring from other universities to the third or fourth year may be given full standing for the first and second years of his work depending upon the programme previously followed. The University will have the right to insist that certain courses not taken in the first or second year be included as part of the third or fourth year's work where this seems advisable.

5. In order to obtain a degree or diploma in the University, a candidate must do the equivalent of at least one full academic year's work (including the final year) in the University irrespective of the amount of pro tanto credit allowed. (In the Evening Division this is interpreted to mean that a student must complete at least five full courses over a period of at least three four-month terms.) This regulation applies to students presenting certification of more than one year's work in another college or university, and also to graduates of Sir George Williams University who may wish to qualify for a second Bachelor's degree in a field other than that in which they were graduated. The University does not encourage the practice of students qualifying for several degrees at the Bachelor level. In no case will the University grant all three Bachelor's degrees to one student without special review of the circumstances by Faculty Council.

6. Any undergraduate of the University presenting a qualifying certificate for a commission in any branch of Her Majesty's Forces will be granted one full course credit in any division (Natural Science, Social Science, or Humanities). Such credit will not apply to any of the specified courses, nor will it apply towards the five courses needed to meet the residence requirements.

7. A student will not be given credit for courses taken in another university during the same academic term in which he has been registered for courses at Sir George Williams University, unless special permission has been obtained in advance from the Registrar, nor may a student register for courses at the University if he is enrolled at the same time for studies elsewhere.

8. A student transferring from another university after a failed year will not be given credit for any of the courses in the failed year. If any of the courses in that year have been passed, he may, however, be allowed to substitute other courses for these instead of having to repeat them.

REGISTRATION

Enrollment must be made personally at the University offices, during the month preceding the opening of the Session (see calendar on page 4).

Anyone applying for admission to the University for the first time must provide a record of previous school and college work to accompany the application. Engineering applications must be submitted by August 14th and all others by August 24th. Notification of acceptance will be given by letter, and registration must then be completed in person during the regular registration period.

Notification of acceptance does not guarantee a place in classes until registration has been completed.

Course Load

Students in the Day Division will carry five courses in the first year (six for Engineering students); the remainder of the twenty-one courses will be taken over the three following years, with not more than six courses in any one year. A six course program will normally be sanctioned in only one of these three years. Students in the Evening Division will normally carry a maximum of three courses, except in Engineering.

A student with a deficiency may remove it by passing a supplemental examination. Under *exceptional* circumstances a student may be permitted to make up a deficiency by taking an extra course during the regular session on written application to the Faculty Council for permission to do so.

Fees

INFORMATION OBTAINABLE FROM THE BURSA

FEES — DAY DIVISION

Effective June 1, 1964

Any student registered for four courses or more will be considered a full time student of the University and will be charged fees as scheduled below for the Day Division.	
Tuition, per year, in Arts and Commerce (include the cost of one lab or problem period).....	\$450.00
Tuition, per year, in Science (include the cost of two lab or problem periods).....	475.00
Tuition, extra course in addition to regular programme.....	90.00
Tuition, partial students, per course.....	100.00
Tuition, per year, Engineering I, II and III (including lab fees).....	525.00
Tuition, Engineering Survey School (plus a refundable \$10.00 caution money deposit).....	65.00
Laboratory Fee, for each subject involving a lab or practice period in addition to those included in fees above. (Arts, Science, Commerce and Engineering).....	40.00
Deferred Payment Fee (Charge when payments are paid in two installments i.e. on registration and on January 2nd).....	5.00
(Charge when tuition fees are paid in more than two installments i.e. monthly).....	10.00
Course Change Fee (for each subject—payable at time of change).....	5.00
Special Registration Fee.....	10.00
Application Fee—This fee is refundable in case of non acceptance only. In all other cases this fee is applicable to tuition fees at time of registration. Only cash, money orders or certified cheques will be accepted.....	25.00
Supplemental Examinations, per paper (not transferable or refundable).....	10.00
Student Activities, Annual Fee— Student Undergraduate Society \$15.00	
Athletic Council 5.00.....	20.00
Associate Diploma Fee (payable March 1st of Award year).....	5.00
Engineering Certificate.....	5.00
Graduation Fee (payable March 1st of graduation year).....	10.00
Removal of Incompletes.....	10.00
Transcript Fee (for each issuance of Transcript of Record).....	1.00
Studio Fee (Fine Arts 221, 421 and 422) per month.....	15.00
Fee for re-reading of papers (refundable if grade is raised).....	10.00
Special Examination Fee, per paper.....	15.00
Effective Reading course.....	35.00
Tuition, Day Summer Session in Sociology, per course.....	100.00
Tuition, Day Summer Courses in Geography, per course.....	75.00

FEES — EVENING DIVISION

Effective September 1, 1964

Tuition, Arts, Science, Commerce and Engineering (exclusive of other fees listed below)

Each half-course.....	\$ 37.50
Each full course.....	75.00
Tuition, Engineering II and III, Winter Session.....	262.50
Tuition, Engineering Survey School (plus a refundable \$10.00 caution money deposit).....	35.00
Laboratory Fee, for each subject involving laboratory or practice periods in addition to lectures (Arts, Science and Commerce).....	40.00
Deferred Payment Fee (Charge when payments are paid in two installments, i.e. on registration and on January 2nd).....	5.00
(Charge when tuition fees are paid in more than two installments i.e. monthly).....	10.00
Course Change Fee (for each subject—payable at time of change).....	5.00
Special Registration Fee.....	10.00
Application Fee—This fee is refundable in case of non acceptance only. In all other cases this fee is applicable to tuition fees at time of registration. Only cash, money orders or certified cheques will be accepted.....	25.00
Supplemental Examinations, per paper (not transferable or refundable).....	10.00
Associate Diploma Fee (payable on March 1st of Award year).....	5.00
Engineering Certificate (payable on March 1st of Award year).....	5.00
Graduation Fee (payable on March 1st of graduation year).....	10.00
Removal of Incompletes.....	10.00
Transcript Fee (for each issuance of record).....	1.00
Studio Fee (Fine Arts 221, 421 and 422) per month.....	15.00
Fee for re-reading of paper (refundable if grade is raised).....	10.00
Special examination fee, per paper.....	15.00
Effective Reading course.....	35.00

Policy on Payment of Tuition Fees

On registration students contract to pay the full tuition fees for the courses selected for the academic year. Students under 21 years of age must be accompanied by a parent or a guardian who will sign the tuition contract, or provide the University with the written consent of the parent or guardian when making a tuition contract with the University. These contracts are binding and may be cancelled only at the discretion of the Bursar. Non-attendance in classes will not be considered a reason for cancellation of contract.

Normally, tuition and other fees are paid in full at the time of registration. With the permission of the Bursar, students may apply to pay their fees in installments. When fees are paid in installments, a minimum deposit as indicated in plan "B" on registration must be paid at the time of registration. Registration is not considered complete in any case until students have complied with the regulations of the Registrar's Office and have paid the prescribed deposit or have made arrangements for payment, approved by the Bursar.

All tuition accounts *not* paid in full on or before October 10th are subject to a deferred payment fee.

All contracts are subject to revision for adjustment of errors.

The following plans are available for students who have been given permission to pay their fees in installments:

DAY UNIVERSITY

Plan "A"

	Fees at Regis- tration	at regis- tration	Jan. 2	at regis- tration	4 monthly payments
Faculty					
ARTS	\$470.00	\$275.00	\$200.00	\$160.00	\$80.00
SCIENCE	495.00	275.00	225.00	185.00	80.00
COMMERCE	470.00	275.00	200.00	160.00	80.00

DAY ENGINEERING

ENGINEERING Plan "A"

Tuition	4
Fees at	at regis-
Registration	tration
\$545.00	\$300.00
	\$250.00
	\$195.00
	\$90.00

N.B. The above fees include a Student Activities Fee of \$20.00.

EVENING ENGINEERING

Plan "A"

Tuition				4
Fees at				
Registration	at regis- tration	Jan. 2	at regis- tration	monthly payments
<u>\$262.50</u>	<u>\$167.50</u>	<u>\$100.00</u>	<u>\$112.50</u>	<u>\$40.00</u>

EVENING UNIVERSITY

Number of Courses	Fees at Registration	Plan "A"		Plan "B"		4 monthly payments
		at registration	Jan. 2	at registration	Jan. 2	
1/2	\$ 37.50	\$ 22.50	\$ 20.00	\$ 15.50	\$ 8.00	
1	75.00	50.00	30.00	25.00	15.00	
1 + 1 lab.	115.00	75.00	45.00	53.00	18.00	
1 1/2	112.50	60.50	57.00	50.50	18.00	
1 1/2 + 1 lab.	152.50	80.50	77.00	62.50	25.00	
2	150.00	80.00	75.00	60.00	25.00	
2 + 1 lab.	190.00	100.00	95.00	80.00	30.00	
2 + 2 labs.	230.00	135.00	100.00	100.00	35.00	
2 1/2	187.50	100.50	92.00	77.50	30.00	
2 1/2 + 1 lab.	227.50	132.50	100.00	97.50	35.00	
2 1/2 + 2 labs.	267.50	150.50	122.00	117.50	40.00	
3	225.00	130.00	100.00	95.00	35.00	

Withdrawals and Adjustments

Any student who is forced to withdraw from a course or from the University is required to notify the Registrar's Office in person or in writing and to give reasons for withdrawing. Withdrawal from classes does not entitle a student to refunds of fees or cancellation of contract without the permission of the Bursar. No withdrawals will be accepted after March 15th (November 15th for first term courses).

- (1) Applications for contract adjustments must be presented no later than ten days after the beginning of the University term. If a student cancels a course or courses within the ten day period the adjustment is 75% of the fee for each full course, 50% of the fee for each half course scheduled in the first term and all of the fee except the registration deposit of \$10.00 for each half course scheduled in the second term. If a student cancels a second term half course during the first ten days of the second term, the adjustment is 50% of the fee. After this period no tuition refunds or adjustment are allowed regardless of the reason for withdrawal.

No adjustments or transfers of fees are allowed for course changes made after the ten day period immediately following the beginning of the term.

- (2) Failure to attend classes shall not be considered a cancellation of contract.

- (3) In the event that the University grants a refund, the following fees are not refundable, viz: fees for course changes; late registration; removal of incompletes; supplemental examinations; student societies; advanced registration; mature matriculation; and registration deposit.
- (4) A registration deposit of \$10.00 per subject (full or half-course) will be charged for cancellations before the start of the term.

A student registering for more than the normal course load is not granted any adjustment for the cancellation of courses.

Failure to make payments of tuition, fees, or other amounts owed the University, when they fall due, or to arrange for such payments before their delinquent dates, is considered sufficient cause, until the debt has been adjusted with the Bursar's Office, to (1) bar the student from classes or examinations, and/or (2) withhold diploma, scholastic certificate, or transcript of record.

Regular Officer Training Plan (R.O.T.P.)

The Armed Forces of Canada subsidize a limited number of undergraduate University students who are willing to accept a military service obligation as a commissioned officer under the provisions of the R.O.T.P.

Acceptable applicants will be enrolled in their choice of the three services (R.C.N., Canadian Army, R.C.A.F.) as an officer cadet on a career basis. Upon graduation and fulfilment of military training requirements, officer cadets are promoted to commissioned rank and are required to serve a minimum of three years immediately thereafter in the service which sponsored their training. After such service, an officer may be released at his own request provided that a period of national emergency does not exist.

Details of eligibility and admission, financial assistance and training may be obtained from Mr. R. A. Fraser, Secretary of the University Council.

University Reserve Training Plan (U.R.T.P.)

The U.R.T.P. is designed to qualify university students for commission in the R.C.A.F. (Regular Force or one of the three Reserves—Auxiliary, Primary or Supplementary).

To be eligible for enrolment in the University Squadron, a student must be (a) between the ages of 17 years (18 years for women applicants—may apply for enrolment in the Food Services Branch only) and 26 years. (b) able to participate in R.C.A.F. Summer Training (c) enrolled in a university course which is a requisite of the branch for which application is made (d) medically fit to R.C.A.F. standards and (e) a Canadian citizen or British subject resident in Canada with the status of a landed immigrant.

Successful candidates are enrolled in the Primary Reserve in the rank of Flight Cadet. Each year is divided into two training periods: Winter Training and Summer Training. Normally, the Plan requires three winters and one, two or three Summers, depending on the branch of training.

Upon graduation from university and completion of the training programme, Pilot Officers are eligible to transfer to the R.C.A.F. Regular, the Auxiliary, the Primary Reserve M.A.T.P. or the Supplementary Reserve in the rank of Flying Officer.

Further information obtainable from Mr. R. A. Fraser, Secretary of the University Council.

Academic Year Examinations and Advancement Regulations

obligation. Payment of tuition following completion of the course, shall be the responsibility of the student, unless he does not receive full tuition remission, in which case the student will be granted a full refund of tuition.

Graduation and registration of students in courses will be based on available space and the number of students registered in each course. The University reserves the right to withdraw any student if it is deemed necessary for the welfare of the student and/or the University.

A student is responsible for payment of tuition, fees, and other granted amounts received for the continuation of courses. Upon the death of a student, the University will be liable to the University, when they fail due to or in default of their payment before their obligations due, to consider the student dead, when the debt has been advised with the Bursar's Office, to (1) bar the student from classes or examinations, and/or (2) withhold diploma, academic certificate, or transcript of record.

Regular Officer Training Plan (R.O.T.P.)

The Armed Forces of Canada maintains a limited number of undergraduate University students who are willing to accept a military service obligation as a commissioned officer under the provisions of the R.O.T.P.

Applicable applicants will be entitled in their choice of the three services (R.C. N., Canadian Army, R.C.A.F.) as an officer cadet on a career basis. Upon graduation and fulfillment of military training requirements, officer cadets are promoted to commissioned rank and are required to serve a minimum of three years immediately thereafter in the service which sponsored their training. After such service, an officer will be released at his/her request provided that a period of national emergency does not exist.

Details of application and admission, financial assistance and training may be obtained from Mr. R. A. Fraser, Secretary of the University Council.

University Reserve Training Plan (U.R.T.P.)

The U.R.T.P. is designed to qualify university students for commission in the R.C.A.F. (Regular Force or one of the three Reserves—Auxiliary, Primary or Supplementary).

To be eligible for enrollment in the University Squadron, a student must be 17 between the ages of 17 years 11 months for women applicants—men apply for acceptance in the Field Services Branch after 18 years. He/she is permitted to participate in R.C.A.F. Reserve Training or enrolled in a university course which is a component of the branch for which application is made. Acceptance by an R.C.A.F. student into a Canadian service or Reserve unit or squadron in Canada with the status of a regular member.

GRADUATION AND DIPLOMA

All students registered in the University are required to sit for regular progress examinations held in January and the final examinations held in June. Students failing examinations will be given a probationary period during which time they may be granted an extension of time to complete the examination.

The grades accepted for graduation are A, B, C, D, E, F, and G, with the grade of F being the best of the failing grades.

Failure to pass any of the subjects used by weight toward the degree will result in the student being given a failing grade.

Failure to pass all subjects used toward the degree will result in the student being given a failing grade.

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Academic Year

Examinations and Advancement

Grades are awarded on the basis of the following system:

A = Excellent
B = Good
C = Fair

D = Poor
E = Very Poor
F = Failed

Information concerning the conduct of regular term examinations, final examinations, and the preparation of the student for the final examination of the University is contained in the following sections:

1. *Final term examinations*
2. *Final examinations from final examinations*
3. *Final examinations from final examinations*

Information concerning the conduct of the final examinations and the preparation of the student for the final examination of the University is contained in the following sections:

1. *Final examinations from final examinations*
2. *Final examinations from final examinations*

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2. *Final examinations from final examinations*

Regulations

University Services Association and the University

Information concerning the conduct of the final examinations and the preparation of the student for the final examination of the University is contained in the following sections:

1. *Final examinations from final examinations*
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ACADEMIC YEAR AND CLASS HOURS

Winter Session

The winter session of the university is divided into two terms; each is three and one-half months in length. Exact dates marking the opening and closing of the various terms are to be found in the calendar on page four of this announcement.

Summer Session

A nine-week session is operated in the evening division only. The session is held for the convenience of evening students and it is recommended that evening students who take advantage of this session do so primarily to lighten the course load in the winter session. Evening students are not advised to carry a program through both winter and summer sessions, unless at a reduced course load, for two consecutive summers. Students regularly enrolled in the Day Division of the University may not take courses for credit in the Summer Session.

SPECIAL SUMMER SESSION IN SOCIOLOGY

A six-week summer session in Sociology will be held during the day from July 13th to August 25th, 1964. Both Day and Evening Division students may register for these courses, subject to general regulations. For details of courses see Sociology page 178.

SPECIAL SUMMER SESSION IN GEOGRAPHY

A six-week summer session in Geography will be held during the day from July 2nd to August 15th, 1964. Both Day and Evening Division students may register for these courses, subject to general regulations. For details of courses see Geography page 168.

Students may register in more than one of these three programs, but may not take more than two credits.

Any Day Division student who intends to take summer courses for credit, whether at Sir George Williams University or elsewhere, and any Evening Division student who intends to take summer courses for credit at another institution, must obtain permission from Faculty Council in advance. No student may register at both Sir George Williams University and another institution for courses during summer 1964.

EXAMINATIONS AND ADVANCEMENT

All students registered in the University are required to write the regular progress examinations held in January and the final examinations held at the close of each course.

Identification cards have been provided for each student and must be presented for admission to each examination.

The grades awarded as the final standing in each subject for the academic year are given on the basis of:

- (1) The year's work of the student, week by week;
- (2) The progress examinations;
- (3) The final examinations.

The matter of satisfactory attendance and an acceptable level of expression in the English language will be given consideration in assessing the final grade for each subject. The *minimum* attendance required is 50% of the lectures in each term, although the instructor may set a higher requirement than this if he sees fit.

GRADING SYSTEM

Grades are awarded according to the following system:

A	Excellent
B	Very Good
C	Good (Average)
D	Pass
F	Fail (failed final examination—may write supplemental)
R	Fail (failed final examination plus unsatisfactory attendance and/or incomplete term work—must repeat course for credit; or failed supplemental examination)
Inc	Fail (term work incomplete)
Abs	Fail (absent from final examination)
S	Credit (late completion of term work or passed supplemental)

All grades remain permanently on the records. All grades on final examinations (including F, R, Inc, Abs whether cleared later or not) are reported on transcripts.

Re-reading of Examinations

All examination papers graded "F" or "R" are carefully re-read by the instructor before final approval of the grade. However, any student may request, within one month of the release of grades, that his paper be re-read by a committee which includes the instructor and at least one other impartial professor. Application to have an examination paper re-read must be submitted to the Director of Examinations on a form which may be obtained from the Registrar's Office. A fee of \$10.00 must accompany the application. If the grade is raised, the fee is refundable.

REGULATIONS ARTS, SCIENCE AND COMMERCE

Failures

Definition of a Failed Year—

(Failure includes the grades F, R, Inc, and Abs)

1. A student who fails courses equivalent to more than two credits in any academic year is considered to have failed the year.
2. A student who fails courses equivalent to two credits in each of two consecutive years is considered to have failed the (second) year.

Regulations Concerning a Failed Year

1. A student who has failed a year may not write supplemental examinations or complete courses marked incomplete.
2. A student who has failed a year may not reregister, but may seek readmission.
3. A student who has failed a year may be readmitted on a final trial basis by the Dean of his faculty or the Registrar.
4. A student readmitted on a final basis must pass the next five credits for which he registers. He will not be allowed to register if he fails any course (even a half credit) during a trial year.
5. The maximum load during a trial year is five credits for a Day Division student and two credits for any Evening Division student.
6. A student who completes his trial academic year successfully, reestablishes his position as a student in good standing, and is governed by the ordinary regulations.
7. If a student who has been successfully reinstated after a trial year fails courses equivalent to more than two credits in any subsequent academic year, he may not register. He may not apply for readmission.
8. The regulations concerning a failed year become effective for all students on June 1, 1963.

Final Limit on the Number of Failures

It is recognized that the first year at university represents a transitional period for most students. We do not charge failures during the first year (*as defined below*) against the maximum permitted total. Failures during the first year are, however, subject to all other regulations.

A student is considered to be in his first academic year until he has registered for his fifth credit, either here or at some other institution.

1. After the session in which a student has registered for his fifth credit, he may accumulate no more than five failures (whether cleared by supplemental examination or not) during the remainder of his program. A student who exceeds this limit will not be allowed to reregister. He may not apply for readmission. (Failure on a supplemental examination is not counted under this regulation. Failure in a repeated course is counted.)
2. This regulation applies to all students who have not successfully completed first year by June 1, 1963; and to all students subsequently admitted. Students in second year (or higher) by June 1, 1963, are not subject to this regulation. Such students will continue to come under the regulation now in effect:—After completion of his first five courses, no student may take more than twenty-two courses to meet the requirements for a degree.

Supplemental Examinations

1. A student who has failed a year may not write supplemental examinations in courses taken during that year.
2. A student may not write a supplemental examination in a repeated course, nor may he write a second supplemental examination in the same course.
3. After completion of his first year (first year includes the session during which he *registers for* his fifth credit, either here or at another institution), a student may write supplemental examinations for a maximum of three credits during the remainder of his program.
4. A student may write supplemental examinations for a maximum of two credits in his first year. These are not charged against the allowable maximum stated above.
5. "To write" a supplemental examination is interpreted as "to attempt to pass" it. A student who writes supplemental examinations in courses equivalent to three credits has used up his allowance, whether he passes the examinations or not.
6. If a student applies for permission to write a supplemental examination and the permission is granted, he is presumed to have written. Absence from such a supplemental examination is counted as a failure and is charged against the permissible maximum.

7. Medical reasons (certified by a physician on the form provided by the university) comprise a valid excuse for exemption from most of the regulations concerning supplemental examinations.
 - a) A student absent from a regular examination for medical reasons may, if he wishes, write a supplemental examination. If he passes he will receive a letter grade and will not be charged with a failure nor a supplemental under the maximum permissible allowances. If he fails he will be charged with both a failure and a supplemental.
 - b) A student absent from a supplemental examination for medical reasons is not considered to have failed the examination.
8. Supplemental examinations in courses taken during the regular session must be written not later than the following July; in courses of the summer session not later than July of the following year.
9. Supplemental examinations are graded only as S (pass), R (fail), or Abs (absent).
10. Application to write a supplemental examination must be submitted to the Director of Examinations NO LATER THAN JUNE 26th on a form which may be obtained from the Registrar's Office. The required fee must accompany all applications.
11. The regulations concerning supplemental examinations become effective on June 1, 1963 for all students who have not completed first year by that date, and for all students subsequently admitted. Students in second year (or higher) on June 1, 1963, are as of that date, subject to all of the regulations concerning supplemental examinations as listed above, except for number 3. No new maximum limit is imposed on such students.

NOTE: A student who fails courses in excess of the number that may be cleared by supplemental examinations may be unable to complete his degree in four years. Other regulations of the University will *not* be relaxed in order to allow this.

Completion of Courses Graded Incomplete

1. A student who has failed a year may not complete a course, taken during that year, that has been graded incomplete.

2. Application to complete a course graded incomplete must be submitted to the Director of Examinations at the same time as the work is submitted to the instructor. Forms are available at the Registrar's Office. The required fee must accompany all applications. The limiting dates are:
 - a) For first-term courses in the regular session, not later than the following April 15th.
 - b) For all other courses in the regular session, not later than the following August 15th.
 - c) For all courses in the summer session, not later than the following November 15th.
- NOTE:**—The instructor can require earlier completion.
3. Late completions are graded only as S (pass) or R (fail) except for medical reasons (see regulations concerning supplemental examinations).
 4. The regulations concerning the completion of incompletes become effective for all students on June 1, 1963.

Repetition of Courses

1. A student may repeat a failed course only once. He may not write a supplemental examination in the repeated course (except for medical reasons; see regulations concerning supplemental examinations).
2. If a student repeats a course that is specifically required for a degree and fails it a second time, he may apply to Faculty Council for permission to substitute an alternate course. Unless such permission is granted he will *not* be allowed to continue in the University toward that degree.
3. The regulations concerning repetition of courses become effective for all students registering for the first time during or after the Summer Session, 1963; and to all courses taken for the first time during or after the Summer Session, 1963 by students previously registered.

ENGINEERING

1. A student in Engineering who fails more than two full courses has failed the year and must repeat it (if permitted to do so) for credit.
2. A student in Engineering may write supplemental examinations in not more than two full courses, and not more than three papers, each year.

OTHER REGULATIONS

A brief summary of certain regulations is presented here for the guidance of students. A fuller statement of these regulations may be found elsewhere in the Announcement. Students should note that it is the policy of the University to consider individual circumstances in applying these regulations.

1. Residence Requirement

A student must attend at least one full year (including the final year) at the University. (page 66)

2. Special Examinations

A student is not permitted to write examinations in order to validate work done outside the University. (page 65)

3. Credits for Outside Courses

A student who has earned the Senior High School Leaving Certificate, or who transfers from another university, will receive *pro tanto* credit for equivalent courses, *if approved by the Registrar*. (page 65)

4. Course Load

The ordinary program consists of courses equivalent to five credits per year. (page 67)

5. Withdrawal from Class

A student must notify the Registrar's Office (by letter or in person) that he plans to discontinue a course. No entry of 'discontinued' will be made on a record after March 15th (November 15th for first-term courses). (page 73)

6. Refunds

All refunds must be arranged by the Bursar. (page 73)

7. Conduct

It is expected that at all times, and in all circumstances, a student will conduct himself as a responsible member of the University.

Students must be aware that the University has the right to require the removal of any student who fails to conform to the regulations of the University and who, in the opinion of the University, is not a credit to the University. Such a student may be required to leave the University. A student who fails to conform to the regulations of the University and who, in the opinion of the University, is not a credit to the University, may be required to leave the University.

Completion of Courses Credited Towards

Students may withdraw from any course of credit towards the completion of a degree or diploma, or towards the completion of a certificate of completion of courses, if the student has completed all courses required for the degree or diploma, or certificate of completion of courses, and has been granted a certificate of completion.

UNIVERSITY ANNOUNCEMENT 1958-1959

CURRICULUM FOR THE DEGREE OF

arts in either of the following subjects to include all or part of the material

Students preparing for the degree of Bachelor of Arts will take 21 course credits as follows:*

1. One of—Natural Science 210, Physics 210, Chemistry 210, Mathematics 210, English 210, French 210, German 210.

II. Two of—English 210, French 210, German 210, Mathematics 210, English 210, French 210, German 210, Mathematics 210, English 210, French 210, German 210.

III. One of—Humanities 210, selected credits in English, French, German, Mathematics, or Religion.

IV. One of—Social Science 210, selected credits in Economics (210 or 211), Social Education (210 or 211), General History, Political Science, International Relations, Sociology, or Anthropology.

selected English 210, Arts 210, credits in the Natural Sciences Division.

II. A selected credit in the Humanities Division.

III. A selected credit in the Social Sciences Division.

IV. A selected credit in the Natural Sciences Division.

V. A selected credit in any Division.

selected English 210, Arts 210 and 211, credits in the Social Sciences Division.

Students must take three further credits through the year, with a maximum of six credits in any one year. At least one of these credits must be taken through the Social Sciences Division.

At least one of the total of eight credits must be taught for the degree and developed from courses in the following subjects:

To be approved each year, the student must be granted a credit for a particular subject by the University, and the requirements for the degree of Bachelor of Arts.

For further regulations refer to the University Announce-

ment.

Curricula

FACULTIES

The subjects of study included in each of the Faculties of the University are as follows:

FACULTY OF ARTS

THE HUMANITIES DIVISION (Pages 142 to 162):

English Language and Literature	Mathematics
Fine Arts	Mathematics
French Language and Literature	Mathematics
German	Mathematics
Greek	Mathematics
Hebrew	Mathematics
Journalism	Mathematics
Latin	Mathematics
Mathematics	Mathematics
Philosophy	Mathematics
Religion	Mathematics
Russian	Mathematics
Spanish	Mathematics

THE SOCIAL SCIENCES DIVISION (Pages 163 to 184):

Economics	Political Science
Education	Psychology
Geography	Sociology
History	Applied Social Science

FACULTY OF SCIENCE

(Pages 120 to 134):

Biology	Mathematics
Chemistry	Natural Science
Geology	Physics

FACULTY OF COMMERCE

(Pages 186 to 196):

Accountancy	Finance
Administration	Industrial Relations
Commercial Law	Insurance
Executive Training	Marketing

FACULTY OF ENGINEERING

(Pages 136 to 140):

CURRICULUM FOR THE DEGREE OF BACHELOR OF ARTS

Students preparing for the degree of Bachelor of Arts will take 21 course credits* as listed below.

First Year Arts (5 credits)

- I. One of—Natural Science 210; Physics 210; Physics 211; Chemistry 211; Biology 211 and either 221 or 222
- II. Two of—English 211 (A student whose native language is not English 221 English should consult the statement on English Requirements for Non-English Speaking Students on page 92.)
- III. One of—Humanities 210
a selected credit in Fine Arts
a language other than English
Religion
Mathematics
- IV. One of—Social Science 210
a selected credit in Economics
" " " Geography
" " " History
" " " Political Science
" " " Sociology

Second Year Arts (5 credits)

- I. A selected credit in the Natural Sciences Division.
- II. A selected credit in English literature.
- III. A selected credit in the Humanities Division.
- IV. A selected credit in the Social Sciences Division.
- V. A selected credit in any Division.

Third and Fourth Year Arts (6 and 5 credits)

Students must take eleven further credits through the two years, with a maximum of six credits in any one year. At least six of these eleven credits must be from the Humanities and/or Social Sciences Division.

At least seven of the total of twenty-one credits required for the degree must be selected from courses at the "B" level (courses numbered in the 400's in the Announcement).

To be admitted to the third year, the student must have completed (or if an evening student, be in the process of completing) the requirements as outlined for the first and second years.

* A full credit represents three hours of class work per week for a full academic year, with the required additional laboratory or studio work. A three-hour course followed for one term only is therefore a half-course and represents a half credit.

CURRICULUM FOR THE DEGREE OF BACHELOR OF SCIENCE

Students preparing for the degree of Bachelor of Science will take 21 course credits* as listed below.

First Year Science (5 credits)

- I. Two of—Physics 211; Chemistry 211;
Biology 211 and either 221 or 222
- II. Mathematics 213 and 223 (Students who have completed High School Trigonometry and Intermediate Algebra with a grade of 65% or more may substitute Mathematics 233 and 451.)
NOTE:—Students who have credit for some, but not all of Mathematics 211, 221, and 231, should consult a member of the Mathematics Department with regard to the courses necessary to complete first year Mathematics requirements.
- III. English 211 (A student whose native language is not English should consult the statement on English Requirements for Non-English Speaking Students on page 92.)

Second Year Science (6 credits)

- I. Three selected credits in the Natural Sciences Division.
- II. A selected credit in English literature.
- III. Two selected credits in the Humanities or Social Sciences Division.

Third and Fourth Year Science (5 and 5 credits)

Students must take ten further credits through the two years, with a maximum of six credits in any one year. At least six of these ten credits must be selected from the Natural Sciences Division.

At least seven of the total of twenty-one credits required for the degree must be selected from courses at the "B" level (courses numbered in the 400's in the Announcement).

To be admitted to the third year, the student must have completed (or if an evening student, be in the process of completing) the requirements for the first and second years.

CURRICULUM FOR THE DEGREE OF BACHELOR OF COMMERCE

Students preparing for the degree of Bachelor of Commerce will take 21 course credits* as listed on pages 89 and 90.

* A full credit represents three hours of class work per week for a full academic year, with the required additional laboratory or studio work. A three-hour course followed for one term only is therefore a half-course and represents a half credit.

First Year Commerce (5 credits)

- I. One of—Natural Science 210; Physics 210; Physics 211; Chemistry 211; Biology 211 and either 221 or 222
- II. English 211 (A student whose native language is not English should consult the statement on English Requirements for Non-English Speaking Students on page 92.)
- III. Economics 211
- IV. Accountancy 211
- V. One of—Humanities 210
a selected credit in Fine Arts
" " " " a language other than English
" " " " Religion
" " " " Mathematics
Social Science 210
a selected credit in Geography
" " " " History
" " " " Political Science
" " " " Sociology

Note:—Intermediate Algebra or the equivalent is prerequisite to Finance 231 in second year. A student who has not passed Intermediate Algebra in High School must either take Mathematics 213 under item V in first year, or take one of Mathematics 213 or Finance 221 under item IV in second year.

The registering officer may allow an *Evening Student* to defer one of items I or V until the second year to enable him to take Accountancy 411 sooner after the completion of Accountancy 211.

Second Year Commerce (6 credits)

- I. Administration 211.
- II. English 214 and 215.
- III. A full credit in English literature.
- IV. One of—Commercial Law 211
a selected full credit in any division.
- V. Accountancy 411.
- VI. Mathematics 241. (Mathematics 441 may be taken instead by those qualified. It must be taken by students majoring in Mathematics in Commerce.)
- VII. Finance 231. (See note concerning prerequisite under First Year Commerce.)
(Mathematics 451 may be taken instead, by those qualified. It must be taken by Commerce students majoring in Mathematics.)

* A full credit represents three hours of class work per week for a full academic year, with the required additional laboratory or studio work. A three-hour course followed for one term only is therefore a half-course and represents a half credit.

Third and Fourth Year Commerce (5 and 5 credits)

Students must take ten further credits through the two years, with a maximum of six credits in any one year. At least six of these ten credits must be from the Commerce Division, in Economics, or in Mathematics. At least two full credits in Economics, in addition to Economics 211, must be taken for the degree.

At least seven of the total of twenty-one credits required for the degree must be selected from courses at the "B" level (courses numbered in the 400's in the Announcement).

To be admitted to the third year, the student must have completed (or if an evening student, be in the process of completing) the requirements as outlined for the first and second years.

CURRICULUM FOR THE DEGREE OF BACHELOR OF ENGINEERING

The University offers a five year programme leading to the degree of Bachelor of Engineering in the fields of Civil, Electrical and Mechanical Engineering. The first year of this programme was offered for the first time in 1963-64. The curriculum is based on a uniform pattern of courses for all students in the first three years, followed by two years of specialized work in the particular professional field chosen by the student.

All Engineering students are required to pass a French language examination at some time following first year Engineering and prior to graduation. Examinations will be held in the Fall and Spring terms of each year. It is suggested that French 211 or 212 be taken as the second year optional course by students who do not have sufficient background in the French language. Foreign students attending the University on a student visa will be exempt from this requirement on request.

First Year Engineering

- I. English 211 (A student whose native language is not English should consult the statement on English Requirements for Non-English Speaking Students on Page 92).
- II. Mathematics 213 and 223 (Students who have completed High School Trigonometry and Intermediate Algebra with a grade of 65% or more may substitute Mathematics 223 and 451).
- III. Engineering 5213.
- IV. Physics 211.
- V. Chemistry 211.

* A full credit represents three hours of class work per week for a full academic year, with the required additional laboratory or studio work. A three-hour course followed for one term only is therefore a half-course and represents a half credit.

Second Year Engineering

(This pattern of courses was first offered in the 1964-65 session).

- I. Mathematics 2231 and 2251.
- II. Physics 4222 and 4232.
- III. Engineering 5211, 5241, 5271, 5321, 5272 (Day Students), and 5273 and 5274 (Evening Students).
- IV. One of English 222, 221. (Students whose secondary education has been completed in another language may substitute an optional course in the Humanities or Social Sciences Divisions.)
- V. Option. (One full course taken in any Faculty, excluding courses required in subsequent years of Engineering.)

Third Year Engineering

(The following is a tentative listing of the pattern of courses to be offered for the first time in the 1965-66 session.)

- I. Mathematics 2353 and 2357.
- II. Physics — A full course in Modern Physics. (new course)
- III. Chemistry — A full course in Physical Chemistry including Thermodynamics and Chemical Kinetics. (new course)
- IV. Engineering 5325, 5326, 5341, 5343 and a full course in Electrical Engineering. (new course)
- V. Option. (One full course taken in the Faculty of Arts.)

Fourth and Fifth Year Engineering

(To be listed in subsequent Announcements)

The first three years of this programme are offered in both Day and Evening Divisions, whereas the final two years will be available in the Day Division only. Evening students are eligible to transfer to the Day Division upon completion of any of the three full academic years.

In the Evening Division the courses of the first year will normally be taken over two calendar years. The second year programme must extend over two calendar years while the courses of the third year may be taken over two or three calendar years. It is imperative that students entering third year in the Evening Division indicate their choice of the two or three-calendar-year pattern since a change from one to the other may not be possible.

ENGINEERING COURSES IN THE BACHELOR OF SCIENCE DEGREE

A student in the Evening Division, registered as a candidate for the Bachelor of Science degree, may select as options any of the following courses for which he has the prerequisites:

NOTE:—Credits obtained in this way may not be applied towards the

Engineering 5241	Mechanics	1 "A" credit
Engineering 5323	Geology	1 "A" credit
Engineering 5341	Advanced Mechanics	1 "B" credit
Engineering 5351	Circuit Theory	1 "B" credit
Physics 4362	Modern Physics	½ "B" credit

CURRICULUM FOR THE CERTIFICATE OF ENGINEERING

Evening Division students who have satisfactorily completed the three academic years, and who do not intend to transfer to the Day Division for fourth and fifth year work, will be granted the Certificate in Engineering upon application to the Registrar. They may, if they wish, be admitted to the Faculty of Science, and continue their studies in the Evening Division to earn the Bachelor of Science degree. This will normally require a further five-course academic year.

Students presently enrolled in the Certificate in Engineering programme in either Day or Evening Division, and who would normally expect to complete their Certificate work in the Spring of 1964 or 1965, will continue to follow the pattern of courses defined in the 1963-64 Annoucement.

ENGLISH REQUIREMENTS FOR NON-ENGLISH SPEAKING STUDENTS

Every new non-English speaking student will be tested for his competence in English upon entry to the University. If necessary, he will be required to take a non-credit service course designed to bring him up to a satisfactory standard of expression. A student will remain in this course until, in the opinion of the instructor, he is able to express himself competently and coherently.

A non-English speaking student who is later discovered to have an inadequate command of English in his classes may be required to return to the service course for further instruction.

A non-English speaking student is exempted from English 211, and may substitute any other course in its place. He should note that English 201 is a college level composition course designed for students for whom English is a secondary language. It may be taken for credit in first or later years if a student wishes, but should not be attempted until after the service course has been successfully completed or exemption obtained.

A non-English speaking student working toward the Bachelor of Arts degree may, if he wishes, substitute English 222 for English 221. He should note, however, that English 221 is prerequisite to most other courses in English literature.

CURRICULA FOR THE DIPLOMA OF ASSOCIATE

Curriculum for the Diploma of Associate in Arts

Students preparing for the diploma of Associate in Arts will take eleven course credits* consisting of the first and second years of the programme for the Bachelor of Arts degree, adding a sixth credit in the second year to be selected from the Humanities Division or the Social Sciences Division.

Curriculum for the Diploma of Associate in Science

Students preparing for the diploma of Associate in Science will take eleven course credits* consisting of the first and second years of the programme for the Bachelor of Science degree.

Curriculum for the Diploma of Associate in Commerce

Students preparing for the diploma of Associate in Commerce will take eleven course credits* consisting of the first and second years of the programme for the Bachelor of Commerce degree.

Note:—As the Associate's Diploma is intended for students who terminate their studies at the end of two years, the Associate's Diploma is awarded only upon advance application for it to the Registrar in the second year.

* A full credit represents three hours of class work per week for a full academic year, with the required additional laboratory or studio work. A three-hour course followed for one term only is therefore a half-course and represents a half credit.

CURRICULUM FOR THE DIPLOMA IN ASSOCIATION SCIENCE

Candidates for the Diploma in Association Science must complete the curriculum for a Bachelor's degree with five credits from the 'basic areas of preparation for the Y.M.C.A. Secretaryship' as outlined below (including all of the 'required' courses). Students who hold a Bachelor's degree from another recognized university may obtain the Diploma in Association Science by completing a minimum of five credits at the University, including necessary courses in the following programme:

- 1. History, Philosophy and Organization of the Y.M.C.A.**
Required: Applied Social Science 211.
 - 2. Christian Leadership and Interpretation**
Required: Religion 231 and at least one half course listed under optional.
Optional: Religion 213, 221, 222, 243; Philosophy 231.
 - 3. Administration**
Required: Applied Social Science 221.
Optional: Accountancy 211, Administration 211, 431, Industrial Relations 421, Executive Training 211, 422, 431, English 214.
 - 4. Leadership and Supervision of Programme and Groups**
Required: Applied Social Science 431.
Optional: Applied Social Science 231, Education 221, English 215, 216, Fine Arts 211, 221, 231, 233, 234, 251.
 - 5. Guidance of Individuals**
Required: Applied Social Science 451 or Psychology 427.
Optional: Psychology 231, Sociology 221.
 - 6. Community Organization and Relationships**
Required: Applied Social Science 441.
Optional: Sociology 221, 441.
(Note: Sociology 211 is a prerequisite for Applied Social Science 441).

Honours, Majors and Special Programs

HONOURS DEGREE PROGRAMMES

The University has approved programmes leading to an Honours degree in certain selected fields. An Honours degree indicates specialization within a field, and high academic standing. In order to qualify for an Honours degree, a student must meet all of the academic qualifications and comply with the regulations set forth below.

1. An Honours student must obtain "A" or "B" grades in all courses in the basic Honours programme after the introductory course in the subject(s), and a passing grade in any additional courses that may be specifically required as part of the Honours programme.
2. An Honours student must obtain at least a "C" average over the total twenty-one credits of the degree programme.
3. A student who fails *any* course shall be suspended from the Honours programme. He may be reinstated by the Honours Committee upon recommendation from the Department(s) concerned.
4. An Honours student must meet the requirements for the general degree as well as the specific Honours requirements.
5. The normal point of entry into the Honours degree programme shall be at the beginning of the second academic year. (In the Evening Division, this shall be interpreted to mean at the beginning of the group of courses containing the seventh credit.) However, a student who has followed the courses prescribed for the second year of the Honours programme may be admitted to the programme at the beginning of the third academic year. (In the Evening Division, this shall be interpreted to mean at the beginning of the group of courses containing the twelfth credit.) Regular consultation and contact with the Department(s) is an intrinsic part of an Honours programme. For this reason, no student may enter an Honours programme after the beginning of the third year, and no retroactive approval of entry may be made.
6. A student must complete two full years (not less than ten credits) at this University to meet the residence requirement for an Honours degree.
7. An evening student must complete the last ten credits of the Honours programme within five calendar years.
8. An Honours student shall consult with his Department(s):
 - (a) prior to being accepted into the Honours programme.
 - (b) at the end of each year.
9. A student shall be allowed to qualify for only one Honours degree in one degree programme.

10. A student intending to undertake graduate work is strongly advised to include a second language in his undergraduate programme.

Honours in Chemistry

The following courses constitute an Honours programme in Chemistry, provided the student maintains the required academic standing:

- First year: First year Science with Chemistry 211 and Physics 211.
- Second year: Chemistry 231, 411*, 412*, 421; Mathematics 451. In addition German 215 or Russian 215.
- Third year: Chemistry 415, 417*, 427*, 431L, 432, 490; Mathematics 452. (A student honouring in Chemistry may take Mathematics 452 without Mathematics 431 as prerequisite.)
- Fourth year: Chemistry 416, 423*, 426*, 433, 450, 491.

Honours in Economics

The following courses constitute an Honours programme in Economics, provided the student maintains the required academic standing:

- Pattern A. (for students in the Faculty of Arts)
- First year: Economics 211.
- Second year: Economics 221, 452.
- Third year: Economics 411.
- Third and
- Fourth years: Economics 412, 421, 453, 461, Social Science 241. One and one-half credits chosen from Economics 271, 422, 423*, 424, 425*, 426*, 444*, 445*, 483.

Mathematics 441 may be substituted for Social Science 241, provided that at least a "B" grade is obtained.

Pattern B. (for students in the Faculty of Commerce)

- First year: Economics 211.
- Second year: Economics 452, Social Science 241.
- Third year: Economics 221, 411.
- Third and
- Fourth years: Economics 412, 421, 453, 461. One and one-half credits chosen from Economics 271, 422, 423*, 424, 425*, 426*, 444*, 445*, 483.

Mathematics 441 may be substituted for Social Science 241, provided that at least a "B" grade is obtained.

* Half-course.

Honours in English

The following courses constitute an Honours programme in English, provided the student maintains the required academic standing:

- A. English 221, 253, 431, 434, 435, 436, 437, 454*.
- B. Two of: English 467, 471*, 472.
- C. Three credits chosen from: English 244, 261*, 444*, 445, 446, 453*, 455*, 461*, 462*, 463, 464*, 468, 481.

In addition, the following courses are required:

D. Candidates for honours are required to take an approved modern or ancient language beyond the introductory level, or to pass during the second year a test in reading comprehension of a language approved by the English Department. One of the following course combinations meets requirement D:

French 211, German 211 and 212, German 215, Greek 211 and 212, Latin 211, Russian 211 and 212, Spanish 211 and 212.

The following sequence of courses is suggested for the Honours programmes:

First year: English 221.

Second year: English 253, one or two of English 244, 261*, 437, 445, 463.

Third and

Fourth years: The remaining courses to complete the programme.

Candidates should begin to take the required Language courses no later than the second year. Candidates are strongly advised to take History 212 during the first year.

Honours in History

The following courses constitute an Honours programme in History, provided the student maintains the required academic standing:

Pattern A. (emphasizing American History)

First year: One credit chosen from History 211, 212, 213.

Second year: History 251, 453.

Third year: History 472.

Fourth year: History 471.

Third and

Fourth years: History 425*. Three and one-half credits chosen from History 422, 423, 424, 452, 454*, 455*, 456*.

Any year: One credit, approved by the department, chosen from Economics, English, Fine Arts, Geography, History, or Political Science.

* Half-course.

It is strongly recommended that Honours students in History planning to do graduate work acquire a good reading knowledge of a modern language. For American History, French or Spanish is recommended.

Pattern B. (emphasizing European and World History)

First year: One credit chosen from History 211, 212, 213.

Second year: Two credits chosen from History 414, 415, 416.

Third year: History 472.

Fourth year: History 471.

Third and

Fourth years: History 433*. Three and one-half credits chosen from History 251, 413*, 431, 432*, 441*, 461*, 462*, 481.

Any year: One credit, approved by the department, chosen from Economics, English, Fine Arts, Geography, History or Political Science.

It is strongly recommended that Honours students in History planning to do graduate work acquire a good reading knowledge of a modern language. For European and World History, French, German, Russian or Spanish is recommended.

Honours in Mathematics

The following courses constitute an Honours programme in Mathematics provided the student maintains the required academic standing:

Pattern A. (for students entering without Intermediate Algebra and Trigonometry)

First year: Mathematics 213, 223.

Second year: Mathematics 431, 451.

Third year: Mathematics 441, 452, 458, 459.

Fourth year: Mathematics 461, 462, 463, 471*.

Pattern B. (for students entering with Intermediate Algebra and Trigonometry)

First year: Mathematics 233, 451.

Second year: Mathematics 431, 452.

Third year: Mathematics 441, 458, 459, 471*.

Fourth year: Mathematics 461, 462, 463.

* Half-course.

Honours in Mathematics and Physics

The following courses constitute an Honours programme in Mathematics and Physics, provided the student maintains the required academic standing:

- First year: First year Science with Physics 211, Chemistry 211, and Mathematics 233 and 451 instead of Mathematics 213 and 223. (A student who has not passed Intermediate Algebra and Trigonometry in High School will take Mathematics 213 and 223 in first year, and must take Mathematics 451 as an additional course during the summer session immediately following.)
- Second year: Mathematics 431, 452; Physics 222*, 232*, 440*, 442*.
- Third year: Mathematics 457, 459; Physics 441, 452, 461.
- Fourth year: Physics 451, 453, 471, 472.

Honours in Zoology

The following courses constitute an Honours programme in Zoology, provided the student maintains the required academic standing:

- First year: First year Science with Biology 211*, 222*, and either Chemistry 211 or Physics 211.
- Second year: Biology 221*, 422. The introductory science course (Chemistry 211 or Physics 211) not taken in the first year must be taken in either the second or third year.
- Third and Fourth years: Biology 431. Three and one half credits chosen from Biology 421, 451, 461*, 471*, 481, 491.

Honours programmes may be offered in other fields in the near future. Students interested should consult their department chairmen for advice on course selections in the meantime.

MAJORS IN THE CURRICULA FOR DEGREES

Majoring has been approved in the following subjects: Accountancy; Administration, Business; Administration, General; Administration, General and Marketing; Biology; Biochemistry; Canadian Studies; Chemistry; Classics; Economics; Economics and History; Economics and Mathematics; Economics and Political Science; English; Fine Arts (Drawing and Painting); Fine Arts (Sculpture); French; Geography; History, American; History, European and World; Mathematics; Mathematics and Physics; Philosophy; Political Science; Psychology; History and Philosophy of Religion; Social Welfare; Sociology.

A "major" is an approved sequence of at least six credits in one of the above subject matter fields, which may include certain approved

* Half-course.

courses in other closely related fields. The term "major" as used by Sir George Williams University implies that the student has followed, within the requirements for the degree, a planned programme in a specific field. The level of scholarship required is the same as that for the general degree.

Further information regarding majors may be found under the outlines of the specific subject matter fields listed in the following pages of the Announcement.

Any student wishing to major must consult the chairman of the department concerned for approval before planning his course sequence, and present to the Registrar a statement signed by the appropriate chairman, authorizing him to register for studies in the major field. It is recommended that such consultation take place during a student's second year, or before commencing the third year.

If necessary the requirements for a major may be completed after graduation.

REQUIREMENTS FOR MAJORS

Major in Accountancy

The following courses, in an approved sequence, constitute a major in Accountancy:

- Accountancy 211, 411, 412, 421*, 431.
Administration 211, Commercial Law 211, 431*, 441*, Finance 411*.
English 214*.
Economics 451.

The major in Accountancy may be taken only in conjunction with the degree in Commerce.

No student will be accepted for the major until a plan of study over the several undergraduate years has been approved by the chairman of the department.

Major in Business Administration

The following courses, in an approved sequence, constitute a major in Business Administration.

- Administration 251*, 431, Commercial Law 211, Finance 411*, Industrial Relations 421*.

Executive Training 421*, 422*, 431*.
English 214*.
Economics 451.

Psychology 211 or Administration 441*.

The major in Business Administration may be taken only in conjunction with the degree in Commerce.

No student will be accepted for the major until a plan of study over the several undergraduate years has been approved by the Dean of the Faculty of Commerce.

* Half-course.

Major in General Administration

The following courses, in an approved sequence, constitute a major in General Administration:

Administration 431, Industrial Relations 421*.

Executive Training 421*, 422*, 431*.

English 214*.

Psychology 211 or Administration 441*.

The major in General Administration may be taken only in conjunction with the degree in Commerce.

No student will be accepted for the major until a plan of study over the several undergraduate years has been approved by the Dean of the Faculty of Commerce.

Major in General Administration and Marketing

The following courses, in an approved sequence, constitute a major in General Administration and Marketing:

Courses required for a major in General Administration with the addition of:

Marketing 211*, 411*, 412*.

Any one of: Marketing 221*, 222*, 413*, 414*.

The major in General Administration and Marketing may be taken only in conjunction with the degree in Commerce.

No student will be accepted for the major until a plan of study over the several undergraduate years has been approved by the Dean of the Faculty of Commerce.

Major in Biology

The following courses, in an approved sequence, constitute a major in Biology:

Biology 211*, 221*, 222*, 241, 411, 422, and two and one-half additional credits in Biology.

No student will be accepted for the major until a plan of study over the several undergraduate years has been approved by the chairman of the department.

Major in Biology and Chemistry

The following courses, in an approved sequence, constitute a major in Biology and Chemistry:

Biology 211* or 212*, 222*, 422, 431 and one additional credit in Biology.

Chemistry 211, 221 or 421, 231, 411*, 412*, 441. In addition, two credits in Chemistry, taken in the third and fourth years.

NOTE:—This Major is no longer offered.

* Half-course.

Major in Biochemistry

First year: First year Science with Chemistry 211 and Physics 211.

Second year: Chemistry 221 or 421, 231; Biology 212, 222; Mathematics 451.

Third year: Chemistry 441, Biology 422.

Fourth year: Chemistry 442, Biology 431.

No student will be accepted for the major until a plan of study over the several undergraduate years has been approved by the chairman of the Chemistry department.

Major in Canadian Studies

The following courses, in an approved sequence, constitute a major in Canadian Studies.

A. English 244, French 211, Geography 441, History 221.

B. At least three credits chosen from English 444*, Fine Arts 244*, 249*, French 231*, Economics 423*, 424, Education 231*, History 424, Political Science 251, Sociology 251.

C. Two courses with Canadian content chosen in consultation with the coordinator of the Canadian Studies programme.

D. Canadian Studies 411 to be taken in the fourth year.

No student will be accepted for the major until a plan of study over the several undergraduate years has been approved by the coordinator of the Canadian Studies programme.

Major in Chemistry

The following courses, in an approved sequence, constitute a major in Chemistry.

First year: First year Science with Chemistry 211 and Physics 211.

Second year: Chemistry 231, 411*, 412*, 421; Mathematics 451.

Third year: Chemistry 417*, 427*, 431L, 490 (Chemistry 413 may be substituted for Chemistry 417* and 427*).

Fourth year: Chemistry 432. In addition, two credits in Chemistry, taken in the third and fourth years.

No student will be accepted for the major until a plan of study over the several undergraduate years has been approved by the chairman of the Chemistry department.

* Half-course.

Major in Classics

The following courses, in an approved sequence, constitute a major in Classics:

Greek 211, 212, 421.

Latin 211, 421; 422 or 423.

English 241*, History 211, Philosophy 221.

No student will be accepted for the major until a plan of study over the several undergraduate years has been approved by the chairman of the department.

Major in Economics

The following courses, in an approved sequence, constitute a major in Economics:

Economics 211, 411, 421, 451 or 452, Social Science 241; two and one-half credits chosen from Economics 221, 271, 422, 423*, 424, 425*, 426*, 444*, 445*, 453, 461.

Mathematics 441 may be substituted for Social Science 241.

No student will be accepted for the major until a plan of study over the several undergraduate years has been approved by the chairman of the department.

Major in Economics and History

The following courses, in an approved sequence, constitute a major in Economics and History:

Economics 211, 422, 424.

History 211; 212 or 213; 221.

Economics 411 or History 451.

No student will be accepted for the major until a plan of study over the several undergraduate years has been approved by the chairmen of the departments of Economics and History.

Major in Economics and Mathematics

The following courses, in an approved sequence, constitute a major in Economics and Mathematics:

Economics 211, 411, 412, 421, 422; 451 or 452.

Mathematics 213 and 223 (or 233 by those qualified), 441, 451.

No student will be accepted for the major until a plan of study over the several undergraduate years has been approved by the chairmen of the departments of Economics and Mathematics.

* Half-course.

Major in Economics and Political Science

The following courses, in an approved sequence, constitute a major in Economics and Political Science:

Economics 211, 411, 421, 444*, 445*; 221 or 422.

Political Science 211, 431, one credit chosen from Political Science 251, 411, 413*, 414*, 421, 441*.

No student will be accepted for the major until a plan of study over the several undergraduate years has been approved by the chairmen of the departments of Economics and Political Science.

Major in English

The following courses, in an approved sequence, constitute a major in English:

A. English 211, 221, 253.

B. At least four credits chosen from English 431, 434, 435, 436, 437, 454*, 455*.

C. The remainder of ten credits chosen from English 241*, 242*, 243*, 244, 261*, 444*, 445, 446, 453*, 461*, 462*, 463, 464*, 467, 468, 471*, 472, 481.

One credit in a related field may be substituted for one of the credits required under C with the approval of the chairman of the department.

No student will be accepted for the major until a plan of study over the several undergraduate years has been approved by the chairman of the department.

Major in Fine Arts (Drawing and Painting)

The following courses, in an approved sequence, constitute a major in Fine Arts (Drawing and Painting):

First year: Fine Arts 231.

Second year: Fine Arts 211, 243.

Third year: Fine Arts 411, 413.

Fourth year: Fine Arts 412, 431, 461.

Third and

Fourth years: Fine Arts 240, 244*.

In addition, it is recommended that the following courses be taken with the major: English 261*, History 211, 213, Psychology 211, Sociology 231*, 232*.

No student will be accepted for the major until a plan of study over the several undergraduate years has been approved by the chairman of the department.

* Half-course.

Major in Fine Arts (Sculpture)

The following courses, in an approved sequence, constitute a major in Fine Arts (Sculpture):

First year: Fine Arts 231.

Second year: Fine Arts 211, 221.

Third year: Fine Arts 232, 421.

Fourth year: Fine Arts 422, 461.

Third and

Fourth years: Fine Arts 240, 243, 249*.

In addition, it is recommended that the following courses be taken with the major: English 261*, History 211, 213, Psychology 211, Sociology 231*, 232*.

No student will be accepted for the major until a plan of study over the several undergraduate years has been approved by the chairman of the department.

Major in French

The following courses, in an approved sequence, constitute a major in French:

First year: French 211 or 212, unless exempted.

Second year: French 221, preferably French 214 or 213.

Third and

Fourth years: French 214 or 213 if not taken in second year, French 421*, 422, 423*, 425, 451; 426 and 427*, or 424.

Latin 211 or Philosophy 221.

One credit chosen from English 434, 467, Humanities 421.

No student will be accepted for the major until a plan of study over the several undergraduate years has been approved by the chairman of the department.

Major in Geography

The following courses, in an approved sequence, constitute a major in Geography:

Geography 211, 231*, 251, 261, 411, 421, 441.

Geology 211* and 212*.

No student will be accepted for the major until a plan of study over the several undergraduate years has been approved by the chairman of the department.

* Half-course.

Major in History

The following courses, in an approved sequence, constitute a major in History:

History 221; one credit chosen from History 211, 212, 213; three credits in History at the "400" level; one credit approved by the department chosen from History, Economics, English, Fine Arts, Geography, or Political Science.

No student will be accepted for the major until a plan of study over the several undergraduate years has been approved by the chairman of the department.

Major in Mathematics (Arts or Science)

The following courses, in an approved sequence, constitute a major in Mathematics:

7 B Category credits chosen among Mathematics courses and Physics 441.

No student will be accepted for the major until a plan of study over the several undergraduate years has been approved by the chairman of the department.

Major in Mathematics and Physics

The following courses, in an approved sequence, constitute a major in Mathematics and Physics:

Mathematics 213 and 223 (or 233 by those qualified), 431, 451, 452, 457.

Physics 211, 222*, 232*, 440*, 441, 442*, 452, 453, 461.

No student will be accepted for the major until a plan of study over the several undergraduate years has been approved by the chairmen of the departments of Mathematics and Physics.

Major in Philosophy

The following courses, in an approved sequence, constitute a major in Philosophy:

Philosophy 211, 221, and four additional credits in Philosophy.

One credit from among the following may be substituted for one credit in Philosophy with the approval of the chairman of the department: History 211, Humanities 421, Political Science 431, Psychology 211, 412, Sociology 211.

No student will be accepted for the major until a plan of study over the several undergraduate years has been approved by the chairman of the department.

* Half-course.

Major in Political Science

The following courses, in an approved sequence, constitute a major in Political Science:

Political Science 211, 431, and four additional credits in Political Science.

No student will be accepted for the major until a plan of study over the several undergraduate years has been approved by the chairman of the department.

Major in Psychology

The following courses, in an approved sequence, constitute a major in Psychology:

Psychology 211, 412, and four additional credits in Psychology.

One credit from among the following may be substituted for one credit in Psychology with the approval of the chairman of the department: one credit in Biology, one credit in Education, Fine Arts 461, Mathematics 241*, Philosophy 211, 221, one credit in Sociology.

No student will be accepted for the major until a plan of study over the several undergraduate years has been approved by the chairman of the department.

Major in the History and Philosophy of Religion

The following courses, in an approved sequence, constitute a major in the history and philosophy of Religion.

- A. Three credits chosen from Religion 211*, 212*, 213, 221*, 231*, 241*, 242*, 243, 251*, 252*.
- B. Two credits chosen from Religion 411*, 412*, 413, 414.
- C. Religion 443, 444.
- D. Philosophy 211 or 221, 411.

No student will be accepted for the major until a plan of study over the several undergraduate years has been approved by the chairman of the department.

Major in Social Welfare

The following courses, in an approved sequence, constitute a major in Social Welfare:

- A. At the introductory level: Economics 211, Political Science 211, Psychology 211, Sociology 211.
- B. Two additional credits in Sociology and two additional credits in at least *one* of the other three fields named above.
- C. Applied Social Science 461*, 462*, Mathematics 241*.

No student will be accepted for the major until a plan of study over the several undergraduate years has been approved by the chairman of the department.

* Half-course.

Major in Sociology

The following courses, in an approved sequence, constitute a major in Sociology:

Sociology 211, and two additional credits in Sociology.

Psychology 211, 441; one and one-half credits chosen from Economics 271, Psychology 225*, 451, Social Science 241.

No student will be accepted for the major until a plan of study over the several undergraduate years has been approved by the chairman of the department.

NOTE:—The attention of majoring students is also drawn to the Special Summer Session in Sociology. (See page 78.)

* Half-course.

SPECIAL PROGRAMMES OF STUDY

Preparation for Entrance to Graduate Faculties and University Professional Schools

A student intending to transfer after graduation from Sir George Williams University to a university graduate faculty or professional school should consult the Registrar upon entrance to the University in order that his programme of study may be planned to satisfy the entrance requirements of the university he expects later to attend, as well as the requirements for the degree or diploma he seeks in the University.

It is standard practice for university graduate schools to require of applicants not only a high standard of previous academic performance but an extended amount of undergraduate specialization in the specific subject in which the advanced degree is sought, sufficient to enable the student to commence immediately upon the graduate courses. Graduates of high standing in a general university course are therefore usually required to take additional work, sometimes to the extent of a "qualifying year", before proceeding to the work for higher degrees. Graduates in an Honours Course may find that they can undertake the work for higher degrees with a minimum of qualifying courses.

Y.M.C.A. Secretaryship Training

Young men and young women wishing to prepare themselves as Secretaries in the Canadian Y.M.C.A. may do so in the University by choosing for the Bachelor's degree the maximum possible number of courses in the Social Sciences Division and fulfilling the requirements as outlined in the "Curriculum for the Diploma in Association Science." Candidates should note that field work in a Y.M.C.A. during their academic activity is highly desirable as an experience complementary to the classroom phase of training. Suitable candidates will find such field work opportunities available under the Fellowship Training Plan of the Montreal Y.M.C.A. This plan also provides some remuneration to offset tutorial and living expenses. Applicants for the Fellowship Training Plan are directed to the Metropolitan Office of the Montreal Y.M.C.A. Those who are interested in qualifying for the Y.M.C.A. Secretaryship are directed to the following publications in pamphlet form:

1. "Qualifications and Training for the Secretaryship of the Young Men's Christian Association."
2. "Basic Areas of Professional Competence in the Y.M.C.A. Secretaryship."

(These pamphlets may be obtained from the Personnel Offices of the Montreal Y.M.C.A. or the National Council of Y.M.C.A.'s of Canada, 2160 Yonge Street, Toronto 7).

Preparation for Entrance to the Study of Medicine

Students preparing at Sir George Williams University for admission to the Faculty of Medicine of McGill University may take the B.A. or B.Sc. course, at least three years of either being required for admission, although the complete degree course is preferable and usually is insisted upon by the medical school.

Such students must be sure to include among their courses these four: Inorganic Chemistry—Chemistry 211. Organic Chemistry—Chemistry 221 or 421. General Biology—Biology 211, and 221 or 222. General Physics—Physics 211.

Students planning to study medicine at universities other than McGill should consult the Registrar of the selected university for information regarding required pre-medical courses.

Preparation for Entrance to the Study of Dentistry

Students preparing at Sir George Williams University for admission to the Faculty of Dentistry at McGill University may follow either the B.A. or B.Sc. course.

The minimum requirement for admission to the dental course is the satisfactory completion of two full years of study in a recognized University or Faculty of Arts and Science (or the equivalent thereof), including courses in the following subjects: English and Mathematics, one year of each; Physics, one year with laboratory work (Physics 211); Biology, one year of General Biology or Zoology with laboratory work (half year of Botany and half year of Zoology will be accepted, but not one year of Botany alone), (Biology 211, and 221 or 222); Chemistry, two full courses, including one full course of Organic Chemistry with laboratory work (Chemistry 211 and 221 or 421).

Students should clarify their eligibility early with the Licensing Board of the Province or State in which they intend to practice on graduation.

Preparation for the Study of Law

Students planning to enter the study of law should take the Arts degree and should note that Article 29, Section (i) of the Bylaws of the Bar of Quebec require proof that "a candidate has followed successfully a regular course in philosophy either before or after his admission to study law". Such students are advised, therefore, to include Philosophy 211, 221, 241, 451 among their course selections.

It should also be noted that an ability to read French easily is required for admission to the Faculty of Law at McGill University. For admission to the Faculty of Law at the University of Montreal, students require two years of university Latin and three years of Philosophy (including Logic and Ethics).

The degree of the University is approved for admission to the study of law at Osgoode Hall.

Teacher's Class I Diploma

Regulation 130 (c) and Regulation 133 of the Regulations of the Protestant Committee of the Council of Education of the Province of Quebec provide that those who hold an acceptable degree from an approved university may be admitted to a course of training leading to a Class I Certificate, or may be permitted to upgrade to Class I Diplomas if they already hold Class II Diplomas. The Protestant Central Board of Examiners has approved the Bachelors degree in Arts, Science, and Commerce from Sir George Williams University for this purpose.

Teacher's Class II Diplomas

A. Class II Diplomas shall be granted to teachers holding Class III Diplomas provided they have passed in ten papers of the Grade XI examinations and have obtained the Senior High School Leaving Certificate, or its equivalent, with passes in English (Composition and Literature) and four other subjects.

The courses that satisfy these requirements are English 221 and four of the following: French 211 or 212, Chemistry 211, Biology 211 or 212 and 221 or 222, Physics 210 or 211, Mathematics 213 or 223 or 211 and 221, Latin 211, History (any number) or Economics 221, German 211, Geography (any number), Natural Science 210, Spanish 211.

B. Class II Diplomas shall be granted to teachers holding Class III Diplomas provided they have passed in ten papers of the Grade XI examinations and have obtained certificates showing that they have passed courses in English of the First and Second Year College or University level and three other First Year subjects, at least one of which shall be Mathematics, French, Latin, or a Science.

The courses named as satisfying these requirements are as follows:

- (1) English 221 plus one full course (or equivalent) above English 211.
- (2) One of French 211 or 212, Chemistry 211, Biology 211 or 212 and 221 or 222, Physics 210 or 211, Mathematics 213 or 223 or 211 and 221, Latin 211, Natural Science 210.
- (3) Any two additional subjects at the First Year level, not including English 211.

Teacher's Class II Certificate

Interim Class II Certificates shall be granted to teachers holding Temporary Permits provided they have obtained credits similar to those outlined in A or B above.

High School graduates who have passed in ten papers of the Grade XI examinations may enter the Macdonald College Institute of Education in the one-year course leading to the Class II Certificate if they have successfully completed the following courses:

1. English 211, 221.

2. Four of the following subjects: Natural Science 210, Biology 211 or 212 and 221 or 222, Chemistry 211, Physics 210 or 211, French 211 or 212, Geography (any number), German 211, History (any number) or Economics 221, Latin 211, Spanish 211, Mathematics 213 or 223 or 211 and 221, English 445.

Membership in the Chemical Institute of Canada

The degree of Bachelor of Science with the major in chemistry that is offered by Sir George Williams University is approved as satisfying the requirements for admission to membership in the Chemical Institute of Canada under bylaws 6 and 7 of the Institute. Undergraduates, who have reached the age of seventeen, are eligible for election as *Student Members* if they are following the program leading to the degree and major mentioned on page 103. Graduates are eligible for election as *Junior Members* provided they are obtaining further training in approved graduate courses in Chemistry or Chemical Engineering or further professional experience approved by the Institute; upon completion of such training or experience, commencing not earlier than the first of January immediately following graduation, and provided that they have reached the age of twenty-one, they may be eligible for election as *Professional Members*. Further information may be obtained from the Registrar's Office.

Chartered Accountants

Students holding the Bachelor of Commerce degree with a Major in Accountancy from Sir George Williams University at the time of registering with the Institute are usually exempted from the Intermediate examinations of the Institute of Chartered Accountants of Quebec, and from three of the five years of apprenticeship required for the C.A. certificate. Further information may be obtained from the Registrar's Office.

Certified General Accountants

Students of the University may prepare for the examinations of the General Accountants Association which grants the title of C.G.A. (Certified General Accountant). This may be done by making an appropriate selection of unit courses, or by including the required courses in programmes leading to the diploma of Associate in Commerce or to the degree of Bachelor of Commerce. Students holding the Bachelor of Commerce degree from Sir George Williams University are now exempt from the first two years of the Association's examinations and from three of the five years of practical accounting experience required. Those with Major in Accountancy are exempted from the first three years of the Association's examinations and from three of the five years of practical accounting experience required. Further information may be obtained from the Registrar's Office.

The Chartered Institute of Secretaries

Students of the University may prepare for the examinations of The Chartered Institute of Secretaries which grants the professional certificate of "A.C.I.S." (Associate Chartered Institute of Secretaries). This may be done by making an appropriate selection of unit courses, or by including the required courses in programmes leading to the diploma of Associate in Commerce or to the degree of Bachelor of Commerce. Students holding the degree of Bachelor of Commerce from Sir George Williams University are now exempt from three of the intermediate examinations of the Chartered Institute of Secretaries, excluding the Secretarial Practice examination itself. Application for these exemptions must be made to the Secretary of the Institute. Further information may be obtained from the Registrar's Office.

Registered Industrial and Cost Accountants

Students of the University may prepare for the examinations of the Society of Industrial and Cost Accountants which grants the professional certificate of "R.I.A." (Registered Industrial and Cost Accountant). This may be done by making an appropriate selection of unit courses, or by including the required courses available in programmes leading to the diploma of Associate in Commerce or the degree of Bachelor of Commerce. Students may complete the requirements for the R.I.A., except for Report Writing, Management Accounting and the Cost Accounting Thesis, at the same time as they complete the requirements of the B.Com. degree, by appropriate selection of unit courses. Only two years of service are required for those who have completed the requirements for the Bachelor of Commerce degree. Further information may be obtained from the Registrar's Office.

Certified Office Administrators

The Montreal Chapter of the National Office Management Association grants certificates, to those who complete a prescribed program of studies, naming the holder a Certified Office Administrator, entitled to use the designation C.O.A. The program includes five required courses and five optional courses from Sir George Williams University, plus two years of office experience. Further information may be obtained from the Registrar's Office.

Other Specially Planned Programmes

Students wishing a programme of study different from any of those suggested are invited to discuss their plans with an officer of the University. Students whose mother tongue is other than English particularly are urged to take advantage of the special arrangements which can be made to suit their needs.

English 120 (400)	Philosophy 100 (300)
English 121 (401)	Philosophy 101 (301)
English 122 (402)	Philosophy 102 (302)
English 123 (403)	Philosophy 103 (303)
English 124 (404)	Philosophy 104 (304)
English 125 (405)	Philosophy 105 (305)
English 126 (406)	Philosophy 106 (306)
English 127 (407)	Philosophy 107 (307)
English 128 (408)	Philosophy 108 (308)
English 129 (409)	Philosophy 109 (309)
English 130 (410)	Philosophy 110 (310)
English 131 (411)	Philosophy 111 (311)
English 132 (412)	Philosophy 112 (312)
English 133 (413)	Philosophy 113 (313)
English 134 (414)	Philosophy 114 (314)
English 135 (415)	Philosophy 115 (315)
English 136 (416)	Philosophy 116 (316)
English 137 (417)	Philosophy 117 (317)
English 138 (418)	Philosophy 118 (318)
English 139 (419)	Philosophy 119 (319)
English 140 (420)	Philosophy 120 (320)
English 141 (421)	Philosophy 121 (321)
English 142 (422)	Philosophy 122 (322)
English 143 (423)	Philosophy 123 (323)
English 144 (424)	Philosophy 124 (324)
English 145 (425)	Philosophy 125 (325)
English 146 (426)	Philosophy 126 (326)
English 147 (427)	Philosophy 127 (327)
English 148 (428)	Philosophy 128 (328)
English 149 (429)	Philosophy 129 (329)
English 150 (430)	Philosophy 130 (330)
English 151 (431)	Philosophy 131 (331)
English 152 (432)	Philosophy 132 (332)
English 153 (433)	Philosophy 133 (333)
English 154 (434)	Philosophy 134 (334)
English 155 (435)	Philosophy 135 (335)
English 156 (436)	Philosophy 136 (336)
English 157 (437)	Philosophy 137 (337)
English 158 (438)	Philosophy 138 (338)
English 159 (439)	Philosophy 139 (339)
English 160 (440)	Philosophy 140 (340)
English 161 (441)	Philosophy 141 (341)
English 162 (442)	Philosophy 142 (342)
English 163 (443)	Philosophy 143 (343)
English 164 (444)	Philosophy 144 (344)
English 165 (445)	Philosophy 145 (345)
English 166 (446)	Philosophy 146 (346)
English 167 (447)	Philosophy 147 (347)
English 168 (448)	Philosophy 148 (348)
English 169 (449)	Philosophy 149 (349)
English 170 (450)	Philosophy 150 (350)
English 171 (451)	Philosophy 151 (351)
English 172 (452)	Philosophy 152 (352)
English 173 (453)	Philosophy 153 (353)
English 174 (454)	Philosophy 154 (354)
English 175 (455)	Philosophy 155 (355)
English 176 (456)	Philosophy 156 (356)
English 177 (457)	Philosophy 157 (357)
English 178 (458)	Philosophy 158 (358)
English 179 (459)	Philosophy 159 (359)
English 180 (460)	Philosophy 160 (360)
English 181 (461)	Philosophy 161 (361)
English 182 (462)	Philosophy 162 (362)
English 183 (463)	Philosophy 163 (363)
English 184 (464)	Philosophy 164 (364)
English 185 (465)	Philosophy 165 (365)
English 186 (466)	Philosophy 166 (366)
English 187 (467)	Philosophy 167 (367)
English 188 (468)	Philosophy 168 (368)
English 189 (469)	Philosophy 169 (369)
English 190 (470)	Philosophy 170 (370)
English 191 (471)	Philosophy 171 (371)
English 192 (472)	Philosophy 172 (372)
English 193 (473)	Philosophy 173 (373)
English 194 (474)	Philosophy 174 (374)
English 195 (475)	Philosophy 175 (375)
English 196 (476)	Philosophy 176 (376)
English 197 (477)	Philosophy 177 (377)
English 198 (478)	Philosophy 178 (378)
English 199 (479)	Philosophy 179 (379)
English 200 (480)	Philosophy 180 (380)
English 201 (481)	Philosophy 181 (381)
English 202 (482)	Philosophy 182 (382)
English 203 (483)	Philosophy 183 (383)
English 204 (484)	Philosophy 184 (384)
English 205 (485)	Philosophy 185 (385)
English 206 (486)	Philosophy 186 (386)
English 207 (487)	Philosophy 187 (387)
English 208 (488)	Philosophy 188 (388)
English 209 (489)	Philosophy 189 (389)
English 210 (490)	Philosophy 190 (390)
English 211 (491)	Philosophy 191 (391)
English 212 (492)	Philosophy 192 (392)
English 213 (493)	Philosophy 193 (393)
English 214 (494)	Philosophy 194 (394)
English 215 (495)	Philosophy 195 (395)
English 216 (496)	Philosophy 196 (396)
English 217 (497)	Philosophy 197 (397)
English 218 (498)	Philosophy 198 (398)
English 219 (499)	Philosophy 199 (399)
English 220 (500)	Philosophy 200 (400)
English 221 (501)	Philosophy 201 (401)
English 222 (502)	Philosophy 202 (402)
English 223 (503)	Philosophy 203 (403)
English 224 (504)	Philosophy 204 (404)
English 225 (505)	Philosophy 205 (405)
English 226 (506)	Philosophy 206 (406)
English 227 (507)	Philosophy 207 (407)
English 228 (508)	Philosophy 208 (408)
English 229 (509)	Philosophy 209 (409)
English 230 (510)	Philosophy 210 (410)
English 231 (511)	Philosophy 211 (411)
English 232 (512)	Philosophy 212 (412)
English 233 (513)	Philosophy 213 (413)
English 234 (514)	Philosophy 214 (414)
English 235 (515)	Philosophy 215 (415)
English 236 (516)	Philosophy 216 (416)
English 237 (517)	Philosophy 217 (417)
English 238 (518)	Philosophy 218 (418)
English 239 (519)	Philosophy 219 (419)
English 240 (520)	Philosophy 220 (420)
English 241 (521)	Philosophy 221 (421)
English 242 (522)	Philosophy 222 (422)
English 243 (523)	Philosophy 223 (423)
English 244 (524)	Philosophy 224 (424)
English 245 (525)	Philosophy 225 (425)
English 246 (526)	Philosophy 226 (426)
English 247 (527)	Philosophy 227 (427)
English 248 (528)	Philosophy 228 (428)
English 249 (529)	Philosophy 229 (429)
English 250 (530)	Philosophy 230 (430)
English 251 (531)	Philosophy 231 (431)
English 252 (532)	Philosophy 232 (432)
English 253 (533)	Philosophy 233 (433)
English 254 (534)	Philosophy 234 (434)
English 255 (535)	Philosophy 235 (435)
English 256 (536)	Philosophy 236 (436)
English 257 (537)	Philosophy 237 (437)
English 258 (538)	Philosophy 238 (438)
English 259 (539)	Philosophy 239 (439)
English 260 (540)	Philosophy 240 (440)
English 261 (541)	Philosophy 241 (441)
English 262 (542)	Philosophy 242 (442)
English 263 (543)	Philosophy 243 (443)
English 264 (544)	Philosophy 244 (444)
English 265 (545)	Philosophy 245 (445)
English 266 (546)	Philosophy 246 (446)
English 267 (547)	Philosophy 247 (447)
English 268 (548)	Philosophy 248 (448)
English 269 (549)	Philosophy 249 (449)
English 270 (550)	Philosophy 250 (450)
English 271 (551)	Philosophy 251 (451)
English 272 (552)	Philosophy 252 (452)
English 273 (553)	Philosophy 253 (453)
English 274 (554)	Philosophy 254 (454)
English 275 (555)	Philosophy 255 (455)
English 276 (556)	Philosophy 256 (456)
English 277 (557)	Philosophy 257 (457)
English 278 (558)	Philosophy 258 (458)
English 279 (559)	Philosophy 259 (459)
English 280 (560)	Philosophy 260 (460)
English 281 (561)	Philosophy 261 (461)
English 282 (562)	Philosophy 262 (462)
English 283 (563)	Philosophy 263 (463)
English 284 (564)	Philosophy 264 (464)
English 285 (565)	Philosophy 265 (465)
English 286 (566)	Philosophy 266 (466)
English 287 (567)	Philosophy 267 (467)
English 288 (568)	Philosophy 268 (468)
English 289 (569)	Philosophy 269 (469)
English 290 (570)	Philosophy 270 (470)
English 291 (571)	Philosophy 271 (471)
English 292 (572)	Philosophy 272 (472)
English 293 (573)	Philosophy 273 (473)
English 294 (574)	Philosophy 274 (474)
English 295 (575)	Philosophy 275 (475)
English 296 (576)	Philosophy 276 (476)
English 297 (577)	Philosophy 277 (477)
English 298 (578)	Philosophy 278 (478)
English 299 (579)	Philosophy 279 (479)
English 300 (580)	Philosophy 280 (480)
English 301 (581)	Philosophy 281 (481)
English 302 (582)	Philosophy 282 (482)
English 303 (583)	Philosophy 283 (483)
English 304 (584)	Philosophy 284 (484)
English 305 (585)	Philosophy 285 (485)
English 306 (586)	Philosophy 286 (486)
English 307 (587)	Philosophy 287 (487)
English 308 (588)	Philosophy 288 (488)
English 309 (589)	Philosophy 289 (489)
English 310 (590)	Philosophy 290 (490)
English 311 (591)	Philosophy 291 (491)
English 312 (592)	Philosophy 292 (492)
English 313 (593)	Philosophy 293 (493)
English 314 (594)	Philosophy 294 (494)
English 315 (595)	Philosophy 295 (495)
English 316 (596)	Philosophy 296 (496)
English 317 (597)	Philosophy 297 (497)
English 318 (598)	Philosophy 298 (498)
English 319 (599)	Philosophy 299 (499)
English 320 (600)	Philosophy 300 (500)
English 321 (601)	Philosophy 301 (501)
English 322 (602)	Philosophy 302 (502)
English 323 (603)	Philosophy 303 (503)
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English 330 (610)	Philosophy 310 (510)
English 331 (611)	Philosophy 311 (511)
English 332 (612)	Philosophy 312 (512)
English 333 (613)	Philosophy 313 (513)
English 334 (614)	Philosophy 314 (514)
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English 336 (616)	Philosophy 316 (516)
English 337 (617)	Philosophy 317 (517)
English 338 (618)	Philosophy 318 (518)
English 339 (619)	Philosophy 319 (519)
English 340 (620)	Philosophy 320 (520)
English 341 (621)	Philosophy 321 (521)
English 342 (622)	Philosophy 322 (522)
English 343 (623)	Philosophy 323 (523)
English 344 (624)	Philosophy 324 (524)
English 345 (625)	Philosophy 325 (525)
English 346 (626)	Philosophy 326 (526)
English 347 (627)	Philosophy 327 (527)
English 348 (628)	Philosophy 328 (528)
English 349 (629)	Philosophy 329 (529)
English 350 (630)	Philosophy 330 (530)
English 351 (631)	Philosophy 331 (531)
English 352 (632)	Philosophy 332 (532)
English 353 (633)	Philosophy 333 (533)
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English 359 (639)	Philosophy 339 (539)
English 360 (640)	Philosophy 340 (540)
English 361 (641)	Philosophy 341 (541)
English 362 (642)	Philosophy 342 (542)
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English 364 (644)	Philosophy 344 (544)
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English 367 (647)	Philosophy 347 (547)
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English 373 (653)	Philosophy 353 (553)
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English 379 (659)	Philosophy 359 (559)
English 380 (660)	Philosophy 360 (560)
English 381 (661)	Philosophy 361 (561)
English 382 (662)	Philosophy 362 (562)
English 383 (663)	Philosophy 363 (563)
English 384 (664)	Philosophy 364 (564)
English 385 (665)	Philosophy 365 (565)
English 386 (666)	Philosophy 366 (566)
English 387 (667)	Philosophy 367 (567)
English 388 (668)	Philosophy 368 (568)
English 389 (669)	Philosophy 369 (569)
English 390 (670)	Philosophy 370 (570)
English 391 (671)	Philosophy 371 (571)
English 392 (672)	Philosophy 372 (572)
English 393 (673)	Philosophy 373 (573)
English 394 (674)	Philosophy 374 (574)
English 395 (675)	Philosophy 375 (575)
English 396 (676)	Philosophy 376 (576)
English 397 (677)	Philosophy 377 (577)
English 398 (678)	Philosophy 378 (578)
English 399 (679)	Philosophy 379 (579)
English 400 (680)	Philosophy 380 (580)
English 401 (681)	Philosophy 381 (581)
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English 404 (684)	Philosophy 384 (584)</td

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Accountancy 103B (422)	1103-1104 (411)
Accountancy 104 (431)	1103-1104 (411)
Accountancy 105 (412)	1103-1104 (411)
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Commerce 134 (Marketing 412)	1103-1104 (411)
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James Murray, B.A., M.A., F.R.S.C., is the new Chairman of the Department of Psychology. He succeeds Dr. John W. G. Stevenson, who has accepted a position at the University of Western Ontario.

Dr. Stevenson's departure will leave a gap in the teaching staff of the Department of Psychology. He has accepted a position at the University of Western Ontario.

Dr. Stevenson's departure will leave a gap in the teaching staff of the Department of Psychology. He has accepted a position at the University of Western Ontario.

Dr. Stevenson's departure will leave a gap in the teaching staff of the Department of Psychology. He has accepted a position at the University of Western Ontario.

Faculty of Science

The Faculty of Science is one of the largest in the University. It includes the Departments of Chemistry, Earth Sciences, Mathematics, Physics, and Psychology. The Faculty of Science is one of the largest in the University. It includes the Departments of Chemistry, Earth Sciences, Mathematics, Physics, and Psychology.

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FACULTY OF SCIENCE

Samuel Madras, *Dean.*

Students requesting admission to advanced courses in Biology, Chemistry, Mathematics and Physics must have their courses approved by the professors concerned.

NATURAL SCIENCE

Henry Foss Hall, *Professor of Natural Science.*

Edward Russell Paterson, *Assistant Professor of Natural Science.*

500 - Natural Science 210. General Course in the Natural Sciences

A pandemic course providing an introduction to the basic sciences necessary for an intelligent appreciation of the world of our day. Science is presented as a unity. The subject matter dealt with is: (a) the earth in space, the universe; the earth's crust, soil, minerals, rocks, strata, fossils; the nature of matter, radiation, etc. (b) animals and plants, their functions and relations; the human body; heredity and environment; evolution. (Full course.)

500 - Natural Science 231. Descriptive Astronomy

The course deals in a descriptive way with the various celestial bodies and their relationships. Starting with the Solar System and continuing into Stellar and Galactic Astronomy, it offers the student the modern concept of the stellar universe as a whole. While it avoids mathematical treatment as much as possible, a background of some high school physics and mathematics is of advantage. Lectures are copiously illustrated with lantern slides. The course is intended as a preparation for an intelligent amateur interest in this rapidly expanding science. (Full course.)

500 - Natural Science 241. History of Science

This course deals with the origins of science and its development from primitive times to the 19th century. It explains the greatly differing attitudes of the past towards science by relating them to the characteristics of successive historical periods. Throughout the course science is treated as a unity, not subdivided into compartments. It is intended for students who have some background in one or more scientific fields, with the aim of clarifying their views of the significance of their particular interests in the broader conception of science as a whole. (Half course.)

500 - Natural Science 221. Principles of Physical Geology

The course deals with the earth as a body; its structure; the changes taking place on its surface; and the forces producing these changes. It includes the principles of identification of rocks and minerals. It is not intended to equip those who may wish to undertake practical geological work, but offers a broad general basis for an intelligent interest in the physical aspects of the earth. Lectures are illustrated with lantern slides and specimens. (Half course.)

This course is no longer offered. See Geology 211.

500 - Natural Science 222. Principles of Historical Geology

Prerequisite: Natural Science 221. This is an advanced course in Geology, applying the principles of Physical Geology to a reconstruction of the history of the earth. The course provides a survey of the great changes that have taken place on the earth's surface throughout geological time. It explains the interpretation of evidence on which the history is based. It also gives a general picture (but not in detail) of the development of successive life forms as revealed by fossils. Illustrated with specimens and lantern slides. (Half course.)

This course is no longer offered. See Geology 212.

BIOLOGY

James Murray Honeyman, *Professor of Biology, and Chairman of the Department.*

William F. Black, *Associate Professor of Biology.*

Donald L. Peets, *Associate Professor of Biology.*

C. F. MacLeod, *Assistant Professor of Biology.*

Frank M. Molnar, *Lecturer in Biology.*

Janet Melvin, *Senior Demonstrator in Botany.*

Malcolm Telford, *Senior Demonstrator in Zoology.*

501 - Biology 211. The Plant Kingdom

A course on the nature and evolution of the plant world. The structure, physiology and reproductive processes of representative plants from the simplest to the most complex types are studied. The laboratory work is intended to acquaint the student with the variety of plant organisms and to illustrate botanical techniques. Lectures and laboratory. (Half course.)

NOTE:—Students who have credit for Biology 101A may not take this course for credit.

501 - Biology 221. The Invertebrates

A course in general zoology using the invertebrates as illustrative material. The structure, physiology, reproduction, distribution and economic importance of these animals are considered. In the laboratory representative species are studied. Lectures and laboratory. (Half course.)

NOTE:—Students who have credit for Biology 101B may not take this course for credit.

501 - Biology 222. The Vertebrates

A course in general zoology using the vertebrates as illustrative material. The structure, physiology, reproduction and evolution of these animals are considered. In the laboratory representative species are dissected. Lectures and laboratory. (Half course.)

NOTE:—Students who have credit for Biology 101B or Biology 422 may not take this course for credit.

501 - Biology 241. Genetics and Human Welfare

A course on the principles of heredity as understood by modern biology. It deals also with the application of genetic principles to organisms including man. The biological basis of social problems is dealt with at some length. The doctrine of organic evolution and its implications for human life and welfare are considered. Lectures only. (Full course.)

501 - Biology 271. Histological Technique

Prerequisite: Owing to limitations of laboratory space, permission of instructor must be obtained before registering. A course in methods of preparing plant and animal tissues for microscopic study. Practical experience is acquired in fixing, embedding, cutting and staining. The techniques are useful to students intending scientific or technical work in biological or medical laboratories. A course mainly for majoring students. Lectures and laboratory. (Full course.)

501 - Biology 411. Taxonomy of the Vascular Plants

Prerequisite: Biology 211 or 212. A survey of the classification, morphology, distribution and evolution of the flowering and cone-bearing plants and of the ferns. Local species as well as those of wider distribution are studied. Field work includes the preparation of a collection of plants by each student. Lectures and laboratory. (Full course.)

501 - Biology 412. Plant Anatomy

Prerequisite: Biology 211 or 212. The internal anatomy and the phylogenetic development of structure in the vascular plants. Lectures and laboratory. (Full course.)

501 - Biology 421. Invertebrate Zoology

Prerequisite: Biology 221. A course on the structure, taxonomy and development of the invertebrate animals. Emphasis is placed on species of economic importance. Biological phenomena such as regeneration and the parasitic mode of life are considered. In the laboratory representatives of the principal invertebrate phyla are dissected. Field work includes the preparation of a collection of animals by each student. Lectures and laboratory. (Full course.)

501 - Biology 422. Chordate Anatomy

Prerequisite: Biology 222. The comparative anatomy of chordate animals, their reproduction, development, distribution and evolution. In the laboratory, representatives of the principal vertebrate classes are dissected. Lectures and laboratory. (Full course.)

501 - Biology 431. General Physiology

Prerequisites: Biology 422, Chemistry 211, Physics 211. A course in functional biology. The principal physiological processes are studied with considerable emphasis on human physiology. In the laboratory these processes are investigated using the appropriate techniques. Lectures and laboratory. (Full course.)

501 - Biology 451. Animal Ecology

Prerequisites: Biology 211 or 212, 221, 222. The natural history of animals. A study of the interrelations between animals, groups of animals, and their environments. Zoological geography; migrations and other movements of animals. Ecology and evolution. Lectures only. (Full course.)

501 - Biology 461. Vertebrate Embryology

Prerequisite: Biology 422. A course to acquaint the student with the fundamental processes of growth and development in the vertebrates. A comparative study is made of selected vertebrate species and a survey of experimental procedures is included. In the laboratory appropriate illustrative material is studied. Lectures and laboratory. (Half course.)

501 - Biology 471. Vertebrate Histology

Prerequisite: Biology 422. A study of the microscopic characteristics of tissues and organs. By means of lectures and laboratory work, the student will become familiar with the origin, the structure, and the organization of the cells comprising the various tissues of man. Lectures and laboratory. (Half course.)

501 - Biology 481. History of Biology

Prerequisite: Biology 431. A course following the growth of biological science to the end of the nineteenth century. Lectures only. (Full course.)

501 - Biology 491. Special Study

Prerequisite: Permission must be obtained from the Chairman of the Department. In this course the student undertakes a special project to develop his knowledge of scientific procedures as used by biologists. (Full course.)

Biology 212. The Flowering Plants

A review of the flowering plants including an account of their structure, physiology, reproduction, distribution and economic importance. In the laboratory the characteristic features of a variety of species of these plants are studied and botanical techniques illustrated. Lectures and laboratory. (Half course.)

This course is no longer offered.

Honours in Zoology

Attention is called to the statement on honours on page 96.

Major in Biology**Major in Biochemistry**

Attention is called to the statement on majors on page 100.

Cognate Courses

Courses in related fields may be helpful or required for the student who plans a career in a branch of Biology. Among such courses are Chemistry 221 or 421, 441, and German 215.

CHEMISTRY

Samuel Madras, *Professor of Chemistry*.

John Russell Ufford, *Professor of Chemistry and Chairman of the Department*.

Roger H. C. Verschingel, *Associate Professor of Chemistry*.

James G. Dick, *Assistant Professor of Chemistry*.

Jacques Lenoir, *Assistant Professor of Chemistry*.

Andrew D. Long, *Assistant Professor of Chemistry*.

Russell V. Webber, *Assistant Professor of Chemistry*.

503 - Chemistry 211. General Chemistry

Prerequisite to all other chemistry courses. Fundamental development of the theory of chemistry. Lectures, conferences and laboratory. (Full course.)

503 - Chemistry 221. Elements of Organic Chemistry

Prerequisite: Chemistry 211. Chemistry of aliphatic, aromatic and heterocyclic compounds. The application of organic chemistry to other fields such as biochemistry, biology and pharmacology. Lectures and laboratory. (Full course.)

NOTE:—Credit will not be given for both Chemistry 221 and Chemistry 421. Chemistry 421 is prerequisite for certain advanced courses.

Textbook: Nussenbaum, *Organic Chemistry, Principles and Applications*.

503 - Chemistry 231. Introductory Physical Chemistry

Prerequisites: Chemistry 211; Mathematics 213 or 221, Physics 211. Gas state, liquids and solutions, introduction to the solid state, introduction to thermodynamics, thermochemistry, electrochemistry and introduction to chemical kinetics. Lectures only. (Full course.)

Textbook: To be announced.

503 - Chemistry 411. Introductory Inorganic Chemistry

Prerequisites: Chemistry 211; Mathematics 213 or 221, Chemistry 412 concurrently or previously. Solubility, crystal structure, amphotericism, electronegativity, atomic and molecular structure, complex ion formation and structure, oxidation-reduction and apparent anomalies in the periodic table. The laboratory consists of a systematic study of the elements of the periodic table to illustrate the principles discussed in the lectures. Lectures and laboratory. (Half course.)

Textbook: Clifford, *Inorganic Chemistry of Qualitative Analysis*.

Reference: Gould, *Inorganic Reactions and Structure*.

503 - Chemistry 412. Introductory Quantitative Analysis

Prerequisites: Chemistry 211, Mathematics 213 or 221, Chemistry 411 concurrently or previously. Fundamental principles of quantitative analysis applied to neutralization, precipitation, oxidation-reduction and complex formation reactions. Lectures and laboratory. (Half course.)

Textbook: Day and Underwood, *Quantitative Analysis*.

503 - Chemistry 413. Advanced Quantitative Analysis

Prerequisites: Chemistry 411, 412; Physics 211; Chemistry 431L previously or concurrently. Instrumental methods in neutralization, precipitation, oxidation-reduction, colorimetry, spectrophotometry, nephelometry, voltammetry, polarography and spectrography. Lectures and laboratory. (Full course.)

NOTE:—Students who have credit for Chemistry 104 may not take this course for credit. For the session 1964-65 this course may only be taken by permission of the Chemistry department.

Textbooks: Ewing, *Instrumental Methods of Chemical Analysis*.

Laboratory Manual: Reilley and Sawyer, *Experiments for Instrumental Methods*.

503 - Chemistry 415. Intermediate Inorganic Chemistry

Prerequisites: Chemistry 411, 412; Chemistry 431L previously or concurrently. Amplification of periodic classification, oxidation-reduction, electronegativity, and crystal chemistry. Discussion of non-aqueous, non-stoichiometric and radiochemistry. Lectures and laboratory. (Full course.)

Textbook: Day and Selbin, *Theoretical Inorganic Chemistry*.

503 - Chemistry 416. Advanced Inorganic Chemistry

Prerequisites: Chemistry 415; Mathematics 452. Introduction to quantum theory. Structure of atoms, molecules, metals, organo-metallic and coordination compounds. Lectures only. (Full course.)

Textbook: Day and Selbin; *Theoretical Inorganic Chemistry*.

503 - Chemistry 417. Advanced Quantitative Analysis

Prerequisites: Chemistry 411, 412; Physics 211; Chemistry 490 previously or concurrently. Instrumental methods in neutralization, precipitation, oxidation-reduction, colorimetry, spectrophotometry, conductometry, coulometry and electrogravimetry. Lectures and laboratory. (Half course.)

NOTE:—Students who have credit for Chemistry 413 may not take this course for credit.

Textbook: Ewing, *Instrumental Methods of Chemical Analysis*.

Laboratory Manual: Reilley and Sawyer, *Experiments for Instrumental Methods*.

503 - Chemistry 421. Introductory Organic Chemistry

Prerequisite: Chemistry 211. Chemistry of aliphatic and aromatic compounds; structural isomerism and stereoisomerism; mechanisms, electronic theories and stereochemistry of organic reactions. Lectures and laboratory. (Full course.)

NOTE:—Students who have credit for Chemistry 221 may not take this course for credit.

Textbook: Morrison and Boyd, *Organic Chemistry*.

503 - Chemistry 422. Carbohydrates, Proteins, Amino-acids and Lipids

Prerequisite: Chemistry 221, or equivalent. Classification, proof of structure and methods of synthesis of carbohydrates, amino-acids and lipids. Lectures only. (Half course.)

NOTE:—Chemistry 422 may not be taken after Chemistry 441. Only one credit will be given for the combination Chemistry 422 followed by Chemistry 441.

Textbook: Percival and Percival, *Structural Carbohydrate Chemistry*.

Reference: Gilman, *Organic Chemistry*.

503 - Chemistry 423. Advanced Organic Chemistry I

Prerequisite: Chemistry 427 or 424, and 431L. Advanced topics in organic chemistry. Lectures only. (Half course.)

Textbook: Gould, *Mechanism and Structure in Organic Chemistry*.

503 - Chemistry 425. Chemistry of High Polymers

Prerequisite: Chemistry 221 or equivalent. Survey of natural and synthetic polymers. Correlation of structure and properties of macromolecules. Methods and mechanisms of polymerization. Lectures only. (Half course.)

Textbook: Stille, *Introduction to Polymer Chemistry*.

503 - Chemistry 426. Advanced Organic Chemistry II

Prerequisite: Chemistry 427 or 424. Chemistry of heterocyclic compounds. Application of advanced techniques to synthetic organic chemistry. Lectures and laboratory. (Half course.)

Textbook: Acheson, *An Introduction to the Chemistry of Heterocyclic Compounds*.

503 - Chemistry 427. Intermediate Organic Chemistry

Prerequisite: Chemistry 412 and 421. Amplification of concepts presented in introductory organic chemistry; qualitative and quantitative analysis of organic compounds and mixtures. Lectures and laboratory. (Half course.)

NOTE:—Students who have credit for Chemistry 424 may not take this course for credit.

Textbooks: Cheronis and Entrikin, *Semimicro Qualitative Organic Analysis*. Wiberg, *Laboratory Technique in Organic Chemistry*.

Reference: Morrison and Boyd, *Organic Chemistry*.

503 - Chemistry 431L. Physical Chemistry Laboratory

Prerequisites: Chemistry 231, 412; Mathematics 451 previously or concurrently. Laboratory only.

NOTE:—Extra credit will not be given for this course, but students who take this in addition to Chemistry 231 will obtain credit for Chemistry 231 as a laboratory course at the "B" level.

Laboratory Manual: Daniels, et al., *Experimental Physical Chemistry*.

503 - Chemistry 432. Intermediate Physical Chemistry

Prerequisites: Chemistry 431L previously or concurrently, Mathematics 451. Second and third laws of thermodynamics, thermodynamic functions determination of activities and fugacities, advanced chemical kinetics. Lectures only. (Full course.)

Textbook: To be announced.

503 - Chemistry 433. Advanced Physical Chemistry

Prerequisites: Chemistry 432; Mathematics 452 previously or concurrently. Statistical thermodynamics and other selected topics. Lectures and laboratory. (Full course.)

Textbook: To be announced.

503 - Chemistry 441. Introductory Biochemistry

Prerequisites: Chemistry 221 or equivalent, and any formal course in Biology. Study of carbohydrates, lipids, proteins, enzymes, and nucleic acids. Metabolic pathways with some reference to pathological conditions and detoxication mechanisms. Lectures and laboratory. (Full course.)

NOTE:—Chemistry 422 may not be taken after Chemistry 441. Only one credit will be given for the combination Chemistry 422 followed by Chemistry 441.

Textbook: White et al., *Principles of Biochemistry*.

References: West and Todd; *Textbook of Biochemistry*.

Karlson, *Textbook of Biochemistry*.

503 - Chemistry 442. Advanced Biochemistry

Prerequisite: Chemistry 441; Biology 431 previously or concurrently. Metabolism of amino acids. Role of steroids and their biosynthesis. Metabolism of pigments of the porphyrin type in relation to their origin and role in animal respiration and in carbon dioxide fixation. Photosynthetic cycle. Biosynthesis and function of antibiotics. Mechanism of antibiotic action on microorganisms. Lectures and laboratory. (Full course.)

Textbook: Fruton and Simmonds, *General Biochemistry*.

Reference: Greenberg, *Metabolic Pathways*.

503 - Chemistry 450. Research Project and Thesis

Prerequisite: Permission of the Chemistry department. The student will work on a research project under the direction of a staff member and write a thesis on the result. (Full course.)

NOTE:—This course is required of fourth year honours students. Some fourth year major students may take it with special permission. Students planning to take this course should consult with the Chemistry department as early in their third year as possible.

503 - Chemistry 461. Industrial Inorganic Chemistry

Prerequisite: Chemistry 211. Study of industrial inorganic processes. The industries discussed include those concerned with mineral acids, alkalies, synthetic ammonia, fertilizers, cements, ceramics, glass, electrothermal products, electrometallurgy, water treatment, etc. This course is not applicable towards a major in Chemistry. Lectures only. (Half course.)

503 - Chemistry 462. Industrial Organic Chemistry

Prerequisite: Chemistry 221 or equivalent. This course is similar to Chemistry 461, but deals with the field of organic chemistry. The industries discussed include those concerned with organic synthesis, fermentation, coal and wood distillation, petroleum refining, oils and fats, pulp and paper, paints, resins and plastics, rubber, etc. This course is not applicable towards a major in Chemistry. Lectures only. (Half course.)

503 - Chemistry 490. Transducers in Chemical Instrumentation

Prerequisite: Chemistry 231, 412; Mathematics 451. Transducers and related principles of electricity, electronics and optics in chemical instrumentation. The laboratory consists of a systematic study of instrumentation units. Lectures and laboratory. (Full course.)

Textbook: Malmstadt, et al. *Electronics for Scientists*.

Strobel, *Chemical Instrumentation*.

503 - Chemistry 491. Chemical Instrumentation

Prerequisites: Chemistry 417 or 413, 427 or 424, 431L and 490. Theory and application of emission spectroscopy, absorption spectrophotometry, X-ray spectrometry, nuclear magnetic resonance, mass spectrometry, radiochemistry, electrochemistry, gas chromatography, etc. Lectures and laboratory. (Full course.)

Textbooks: Bair, *Introduction to Chemical Instrumentation*.

Strobel, *Chemical Instrumentation*.

503 - Chemistry 424. Intermediate Organic Chemistry

Prerequisites: Chemistry 412, 421. Identification reactions and advanced techniques in organic analysis. Instrumental techniques such as ultraviolet and infrared spectrophotometry are used in the laboratory. Lectures and laboratory. (Full course.)

NOTE:—This course is no longer offered.

Chemistry 3231. See Engineering Division.**Honours in Chemistry**

Attention is called to the statement on honours on page 96.

Major in Chemistry**Major in Biochemistry**

Attention is called to the statement on majors on page 100.

GEOLOGY**505 - Geology 211. Principles of Physical Geology**

The course deals with the earth as a body; its structure; the changes taking place on its surface; and the forces producing these changes. It includes the principles of identification of rocks and minerals. It is not intended to equip those who may wish to undertake practical geological work, but offers a broad general basis for an intelligent interest in the physical aspects of the earth. Lectures are illustrated with lantern slides and specimens. (Half course.)

NOTE:—Students who have credit for Natural Science 221 may not take this course for credit.

505 - Geology 212. Principles of Historical Geology

Prerequisite: Geology 211. This is an advanced course in Geology, applying the principles of Physical Geology to a reconstruction of the history of the earth. The course provides a survey of the great changes that have taken place on the earth's surface throughout geological time. It explains the interpretation of evidence on which the history is based. It also gives a general picture (but not in detail) of the development of successive life forms as revealed by fossils. Illustrated with specimens and lantern slides. (Half course.)

NOTE:—Students who have credit for Natural Science 222 may not take this course for credit.

505 - Geology 213. Structural Geology

Mechanical principles of rock deformation; description and representation of folds; description, classification and recognition of faults and joints; secondary foliation and lineation; unconformities; granite tectonics; plutonic rocks and lava flows; structural problems. Lectures and laboratory. (Full course.)

505 - Geology 221. Mineralogy

The study of crystallography and 32 classes of symmetry. The study of physical properties of minerals and the properties depending upon light will also be part of the course as well as chemical, descriptive and determinative mineralogy. Lectures and laboratory. (Half course.)

505 - Geology 222. Optical Mineralogy

The study of minerals under the polarizing or petrographic microscope. Identification of minerals in thin sections and in oil immersion. Lectures and laboratory. (Half course.)

505 - Geology 231. Petrology

The three classes of rocks; composition and crystallization of the magma; forms, structures, textures of igneous rocks; mineralogy, texture, structure and origin of sedimentary rocks; types of metamorphism and their products; metamorphic minerals, processes and structures; rock nomenclature. Lectures and laboratory. (Full course.)

MATHEMATICS

Norman Edward Smith, *Professor of Mathematics, and Chairman of the Department.*
 Frederick W. Bedford, *Associate Professor of Mathematics.*
 Clifford Carroll Sparling, *Associate Professor of Mathematics.*
 Edna Vowles, *Associate Professor of Mathematics.*
 Kailash K. Anand, *Assistant Professor of Mathematics.*
 Victor Byers, *Assistant Professor of Mathematics.*
 J. Ivan Dowling, *Assistant Professor of Mathematics.*
 Martin Harrow, *Assistant Professor of Mathematics.*
 Mary A. McIlwraith, *Assistant Professor of Mathematics.*
 John Senez, *Assistant Professor of Mathematics.*
 Jean C. Turgeon, *Assistant Professor of Mathematics.*

502 - Mathematics 201. Elements of Mathematics

This course is offered for students who have not had the usual pre-university training in mathematics. Subject matter: Elementary algebra up to and including simultaneous quadratic equations, and indices; certain theorems and problems in plane geometry. Students may have the option of taking an extra tutorial period, and may be required to do so at the instructor's discretion. (Full course.)

NOTE:—Students who have received credit toward their admission for High School Mathematics may not take this course for credit.

This course will not satisfy the requirements in Mathematics for any degree or diploma. It may be counted as an option in the Natural Sciences Division by students eligible to receive credit for it.

502 - Mathematics 213. Algebra

Sets; function; natural, integral, rational, real and complex numbers; logarithms; inequalities; permutations and combinations; mathematical induction; theory of equations; determinants. (Full course.)

NOTE:—Students who have completed High School Trigonometry and Intermediate Algebra with a grade of 65% or more need not take this course. They may fulfill first year Science requirements with Mathematics 233 and Mathematics 451. These may be taken concurrently only by day students.

Students who have credit for this course may not take Mathematics 233 for credit.

Students who have credit for Mathematics 233 may not take this course for credit.

502 - Mathematics 223. Analytical Trigonometry and Geometry

Prerequisite: Mathematics 213 previously or concurrently. Coordinate systems; distance formula; angular measures; trigonometry—function, right triangle, identities, composite angles, oblique triangle, inverse functions, equations; complex numbers in polar form; geometry—translation, rotation, straight line, circle, parabola, ellipse, hyperbola, parametric equations. (Full course.)

NOTE:—Students who have completed High School Trigonometry and Intermediate Algebra with a grade of 65% or more need not take this course. They may fulfill first year Science requirements with Mathematics 233 and Mathematics 451. These may be taken concurrently only by day students.

Students who take this course may not take Mathematics 233 for credit.

Students who have credit for Mathematics 233 may not take this course for credit.

502 - Mathematics 233. Algebra and Analytic Geometry

Prerequisite: 65% in High School Trigonometry and Intermediate Algebra. Day students registering for this course must also register for a special section of Mathematics 451 concurrently. Algebra—sets, functions, number systems, inequalities, mathematical induction, theory of equations, determinants; Geometry—coordinate systems, distance formula, translation, rotation, straight line, circle, parabola, ellipse, hyperbola, parametric equations. (Full course.)

NOTE:—This course, with Mathematics 451, is an alternative to Mathematics 213 and 223 for students who have completed High School Trigonometry and Intermediate Algebra with a grade of 65% or more.

Students who take this course may not take Mathematics 213 or 223 for credit.
 Students with credit for either Mathematics 213 or 223 may not take this course for credit.

502 - Mathematics 241. Statistical and Graphical Methods

This course provides the elementary principles of statistical method as applied in the scientific study and interpretation of economic and social phenomena. The course includes the collection of statistical data; various methods of presentation including tables and graphs; the frequency distribution and its mathematical analysis including averages, measures of dispersion, measures of skewness; normal curve; and correlation. (Half course.)

NOTE:—Students who have credit for Economics 481 or Social Science 241 may not take this course for credit.

502 - Mathematics 431. Analytic Geometry and Series

Prerequisites: Mathematics 451 previously or concurrently, and any of the following first year patterns: (a) Mathematics 213, 223, (b) Mathematics 233, or (c) Mathematics 211, 221, 231. Continuation of plane geometry; co-ordinate systems in space, line, plane and other surfaces; vectors, inner and outer products, linear dependence and bases, directional derivative; sequences and series, tests for convergence, power series. (Full course.)

502 - Mathematics 441. Mathematical Statistics

Prerequisite: Mathematics 451. Foundations of probability, distributions of one variable, sampling theory, estimation, hypothesis testing, correlation and regression, analysis of variance, non-parametric statistics. (Full course.)

502 - Mathematics 451. Calculus

Prerequisites: (a) Mathematics 213, 223, (b) Mathematics 233 previously in the Evening Division and concurrently in the Day Division, (c) Mathematics 211, 221, 231. Limits, differentiation and integration of rational and trigonometric functions, applications, mean value theorems, differentials, properties of the definite integral, logarithmic and exponential functions, Taylor's expansion, partial differentiation. (Full course.)

502 - Mathematics 452. Differential Equations

Prerequisites: Mathematics 451; 431 previously or concurrently. First order first degree equations, linear equations, operators, Laplace transforms, series solutions and special functions, numerical methods, elementary partial equations Fourier series. (Full course.)

NOTE:—Only one full credit will be given from among Mathematics 452, 455 and 456.

502 - Mathematics 457. Advanced Calculus

Prerequisites: Mathematics 431, 451. Indeterminate forms, partial differentiation, multiple integrals, line integrals, improper integrals, gamma and beta functions, basic complex integral theorems, residue theory. (Full course.)

NOTE:—This course is intended primarily for Physics students. It does not serve as prerequisite to Mathematics 461 or 462.

Only one full credit will be given from among Mathematics 453, 454, 457, and 458.

502 - Mathematics 458. Advanced Calculus

Prerequisites: Mathematics 431, 451. Indeterminate forms, partial differentiation, multiple integral, line integrals, series, improper integrals, gamma and beta functions, orthogonal functions. (Full course.)

NOTE:—Only one full credit will be given from among Mathematics 453, 454, 457, and 458.

502 - Mathematics 459. Linear Algebra

Prerequisites: Mathematics 431, 451. Vector spaces, linear transformations, matrices, determinants, equivalence relations on matrices, characteristic values, metric concepts, matrix functions, convex sets. (Full course.)

502 - Mathematics 461. Real Variable

Prerequisites: Mathematics 458, or 453 and 454. Definition of real numbers, set theory, continuity, differentiation, mean value theorems, functions of bounded variation, Riemann-Stieltjens integration, selected topics. (Full course.)

502 - Mathematics 462. Complex Variable

Prerequisites: Mathematics 458, or 453 and 454. Elementary functions, Cauchy-Riemann equations, integration, Cauchy's integral theorem, Taylor's and Laurent's theorems, calculus of residues, analytic continuation, conformal mapping. (Full course.)

502 - Mathematics 463. Modern Algebra

Prerequisite: Mathematics 459. Integral domains, rings, fields, groups, selected topics. (Full course.)

502 - Mathematics 471. Digital Computer Programming

Prerequisite: Mathematics 452 or 455 previously or concurrently. An introductory course in computer programming and computer use oriented to the IBM 1620. Lectures and laboratory. (Half course.)

Mathematics 211. Trigonometry

No student who has passed high school trigonometry with 65% or more may register for this course. Subject matter: definition of trigonometric functions, identities and trigonometric reduction, radian measure, functions of multiple angles, transformation of products and sums of functions, solution of triangles by logarithms, solution of trigonometric equations, inverse functions, graphs. Tutorial: students may be required to take supervised practice in the solution of problems in trigonometry. (Half course.)

This course is no longer offered.

Mathematics 221. Algebra

No student who has passed intermediate algebra with 65% or more may register for this course. Subject matter: ratio, proportion, variation, arithmetic progressions, geometric progressions, harmonic progressions, theory of equations permutations and combinations, binomial theorem, mathematical induction, and inequalities. Tutorial: students may be required to take supervised practice in the solution of problems in algebra. (Half course.)

NOTE: Students having completed High School Trigonometry and Intermediate Algebra with 65% or more, may register in special sections of Mathematics 231 and 451 concurrently.

This course is no longer offered.

Mathematics 231. Analytic Geometry

This course is compulsory for first year science students. Subject matter: points, distances, areas of polygons, straight line equations. Circle equations, tangents to the circle, parabola equations. (Half course.)

This course is no longer offered.

Mathematics 453. Advanced Calculus

Prerequisites: Mathematics 431, 451. Subject matter: discontinuities, mean value theorems, limits and indeterminate forms, partial differentiation and applications, multiple integrals, infinite series, expansion of functions. (Half course.)

This course is no longer offered.

Mathematics 454. Advanced Calculus

Prerequisites: Mathematics 431, 451, 453. Subject matter: line integrals, improper integrals, gamma and beta functions, maximum and minimum in several variables, Fourier series, introduction to complex analysis, introduction to calculus of variation. (Half course.)

This course is no longer offered.

Mathematics 455. Differential Equations

Prerequisite: Mathematics 451; 431 previously or concurrently. Recognition and solution of equations of first order, homogenous, linear, exact, etc. Second and higher order equations. Simultaneous equations, solution by series. Applications. (Half course.)

This course is no longer offered.

Mathematics 456. Differential Equations

Prerequisite: Mathematics 455. A continuation of Mathematics 455 including introduction to partial differential equations, with further applications. (Half course.)

This course is no longer offered.

Mathematics 2231, 2251, 2353, 2357.

See Engineering Division.

Honours in Mathematics**Honours in Mathematics and Physics**

Attention is called to the statement on honours on page 96.

Major in Mathematics (Arts or Science)**Major in Mathematics and Physics****Major in Economics and Mathematics**

Attention is called to the statement on majors on page 100.

PHYSICS

Walter Rudolf Raudorf, *Professor of Physics, and Chairman of the Department.*
 Jean-Pierre Petolas, *Associate Professor of Physics.*
 Ludwig Paul Lange, *Assistant Professor of Physics.*
 Ramesh C. Sharma, *Assistant Professor of Physics.*
 Francisco Tomas, *Curator in Physics.*

504 - Physics 210. Great Discoveries in Modern Physics

This course is intended primarily for Arts students. It traces the fundamental ideas of modern physics and their historical development by a descriptive and reflective study of the most telling discoveries in modern physics. Lectures only. (Full course.)

NOTE:—Students who have credit for Physics 211 may not take this course for credit.

References: Gamow & Cleveland, *Physics, Foundations and Frontiers*;
 M. H. Shamos, *Great Experiments in Physics*;
 A. Beiser, *The World of Physics*.

504 - Physics 211. General Physics (Introductory)

Prerequisites: Mathematics 213 and 223, or 233, or 211 and 221 previously or concurrently. Elements of mechanics, sound, heat, magnetism, electricity, and light. A descriptive approach using only elementary mathematical methods. This course may be taken by students having no previous knowledge of Physics. Lectures and laboratory. (Full course.)

References: Smith and Cooper, *Elements of Physics*;
 Sears and Zemansky, *College Physics*;
 Weber, White and Manning, *Physics for Science and Engineering*.

504 - Physics 222. Sound and Light

Prerequisites: Physics 211; Mathematics 451 previously or concurrently. Simple harmonic motion, waves, Huygen's principle, interference and diffraction of sound and light, acoustics, lenses and mirrors, illumination, polarization, origin of spectra. Lectures and laboratory. (Half course.)

References: Marshall and Pounder, *Physics*;
 Robertson, *Introduction to Physical Optics*;
 Jenkins and White, *Principles of Optics*;
 Sears, *Optics*.

504 - Physics 232. Heat

Prerequisites: Physics 211; Mathematics 451 previously or concurrently. Temperature, thermal properties of matter, gas laws, kinetic theory, the laws of thermodynamics, heat engines, heat transfer. Lectures and laboratory. (Half course.)

References: Marshall and Pounder, *Physics*;
 Zemansky, *Heat and Thermodynamics*;
 Weber, *Heat and Temperature Measurement*;
 Sears, *Mechanics, Wave Motion and Heat*.

504 - Physics 440. Mechanics

Prerequisites: Physics 211; Mathematics 451 previously or concurrently. Methods of plane kinematics, Statics and Dynamics; Elements of Elasticity and Fluid Mechanics. Lectures and laboratory. (Half course.)

References: Duncan & Starling, *Mechanics*;
 Sears, *Mechanics, Wave Motion and Heat*;
 Van Name, *Analytical Mechanics*.

504 - Physics 441. Statics and Dynamics

Prerequisites: Physics 211, 440, Mathematics 451. Analytic and vector mechanics of particles and rigid bodies, gyroscopic motion, Lagrange's equations, Hamilton's principle, some non-holonomic systems, relativity. Lectures only. (Full course.)

References: Synge and Griffith, *Principles of Mechanics*, 3rd ed.;
 Slater and Frank, *Mechanics*;
 Lamb, *Statics and Dynamics*;
 Corson and Lorrain, *Electromagnetic Fields and Waves*.

504 - Physics 442. Mechanics of Continuous Media

Prerequisites: Physics 211; Mathematics 451 previously or concurrently. General properties of matter; elasticity; stress and strain; compressibility of liquids, solids and gases; fluid statics; surface tension; fluid dynamics; flow of ideal and real fluids. Lectures and laboratory. (Half course.)

504 - Physics 451. Advanced Electricity and Magnetism

Prerequisites: Physics 211, 452, Mathematics 451. This course is intended chiefly for students majoring in Mathematics and Physics. It is a continuation of Physics 452 with emphasis on the application of Maxwell's Equations, circuit concepts, transmission lines, radiation, and wave propagation. Lectures only. (Full course.)

References: Peck, *Electricity and Magnetism*;
 Slater and Frank, *Electromagnetism*.

504 - Physics 452. Electricity and Magnetism

Prerequisites: Physics 211, Mathematics 451. Analysis of direct-current circuits; steady-state magnetism; chemical and thermal effects of a current; electrostatic problems; charged particles in electric and magnetic fields; electromagnetic induction; transient currents; analysis of alternating current circuits; transformers; basic electronics. Lectures and laboratory. (Full course.)

References: Duckworth, *Electricity and Magnetism*;
 Sears, *Electricity and Magnetism*;
 Page and Adams, *Principles of Electricity*, 3rd ed.;
 Winch, *Electricity and Magnetism*.

504 - Physics 453. Electronics

Prerequisite: Physics 452 or equivalent. Basic electron physics, theory and application of electronic devices, analysis of electron tube circuits. The lecture topics include amplifiers, oscillators, rectifiers, relaxation oscillators, sweep generators, pulse techniques, differentiating, integrating and scaling circuits, modulation and detection, electronic instruments, transistors. Lectures and laboratory. (Full course.)

References: Ryder, *Electronic Fundamentals and Application*;
 Gray, *Applied Electronics*.

504 - Physics 461. Atomic Physics

Prerequisites: Physics 211, Mathematics 451. Elementary particles, structure of the atom, X-rays, Compton effect, photo-electric effect, Bohr's theory of atomic spectra, De Broglie waves, Schrodinger's equation, radioactivity, nuclear physics, atomic energy, cosmic rays. Lectures and laboratory. (Full course.)
References: Hoag and Korff, *Electron and Nuclear Physics*; Weidner and Sells, *Modern Physics*.

504 - Physics 471. Methods of Theoretical Physics

Prerequisites: Physics 441, 451; Mathematics 452 or 455, and 457 or 453 previously or concurrently. Application of differential equations, Fourier transforms, Vector and Tensor analysis to problems in Physics. Lectures only. (Full course.)

References: W. V. Houston, *Principles of Mathematical Physics*;

A. J. McConnell, *Applications of Tensor Analysis*;

Morse and Feshbach, *Methods of Theoretical Physics*;

L. P. Smith, *Mathematical Methods of Scientists and Engineers*.

504 - Physics 472. Introductory Quantum Mechanics

Prerequisite: Physics 461. This course is for the student interested in theoretical physics who wishes to become familiar with the physical ideas and mathematical methods of quantum mechanics either because of their own intrinsic interest or in preparation for a comprehensive and critical survey of the theory, or for a study of its applications. Lectures only. (Full course.)

Physics 221. Light

Physical and geometrical optics, interference, diffraction, polarization, simple spectrum analysis. Prerequisites: Physics 211 and Mathematics 451 previously or concurrently. Lectures and Laboratory. (Half course.)

References: Robertson, *Introduction to Physical Optics*;

Jenkins and White, *Principles of Optics*;

Sears, *Optics*.

This course is no longer offered.

Physics 231. Heat and Thermodynamics

Thermometry, calorimetry, heat transfer, thermodynamic systems, the laws of thermodynamics, Carnot's Cycle, entropy, change of phase, elementary kinetic theory. Prerequisites: Physics 211 and Mathematics 451 previously or concurrently. Lectures and Laboratory. (Half course.)

References: Zemansky, *Heat and Thermodynamics*;

Weber, *Heat and Temperature Measurement*.

This course is no longer offered.

Physics 4222.**Physics 4232.** See Engineering.**Physics 4354.****Physics 4362.****Honours in Mathematics and Physics**

Attention is called to the statement on honours on page 96.

Major in Mathematics and Physics

Attention is called to the statement on majors on page 100.

Graduation Requirements for the Faculty of Engineering**905 - Engineering 5000 - Engineering 9000 - 10000**

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Faculty of Engineering**903 - Engineering 5000 - Engineering 10000**

Mathematical properties

FACULTY OF ENGINEERING

Jack Bordan, *Dean.*

Carl Goldman, *Assistant Professor of Engineering.*

Muhammad Iqbal, *Assistant Professor of Engineering.*

Graham Martin, *Assistant Professor of Engineering and Acting Director of the Computer Centre.*

CHEMISTRY

903 - Chemistry 3231. Physical Chemistry

The gaseous and liquid states of matter; thermochemistry; thermodynamics; properties of solutions; chemical equilibria; phase equilibria; chemical kinetics; conductance and electromotive force; applications to engineering.

Lectures: 2 hours per week, 2 terms.

Problem period: 1 hour per week, 2 terms.

ENGINEERING

905 - Engineering 5211. Mechanical Drawing

Draughting techniques in pencil and ink; use of instruments; lettering; dimensioning; conventions; sketching; orthographic projection; sections; auxiliary views; common machine elements. Elementary design calculation for riveted and welded joints, keys, thin cylinders and shells, spur gears, belt drives.

Lecture and

Draughting Room: 4 hours per week, 2 terms.

905 - Engineering 5213. Descriptive Geometry

Orthographic projection; solution of problems involving points, lines, planes, solids; auxiliary views; revolution; sections and developments; practical examples from various fields.

Lectures: 2 hours per week, 2 terms.

905 - Engineering 5241. Mechanics

Statics; analysis of simple structures by analytical and graphical techniques; friction, particle dynamics.

Lectures: 2 hours per week, 2 terms.

Conference: 1 hour per week, 2 terms.

Draughting Room: As required.

905 - Engineering 5271. Surveying

Types of surveys; description and use of level, compass, transit, chain and tape; levelling; traverses, stadia; the circular curve.

Lectures: 2 hours per week, 1 term.

905 - Engineering 5272. Surveying Summer School

Field work in surveying and mapping.

4 weeks in residence.

905 - Engineering 5273. Surveying Summer School

First half of Engineering 5272.

2 weeks in residence.

905 - Engineering 5274. Surveying Summer School

Second half of Engineering 5272.

2 weeks in residence.

905 - Engineering 5311. Engineering Drawing

Continuation of Engineering 5211 design problems for students in Mechanical option. Design of machine members; bending and torsion, springs, surface and roller bearings, brakes and clutches. Detailed and assembly drawings of projects including design briefs. Production processes.

Lectures and

Draughting Room: 2 hours per week, 2 terms.

905 - Engineering 5321. Materials of Engineering

Manufacture, properties and uses of common engineering materials and their testing methods.

Lectures: 2 hours per week, 1 term.

905 - Engineering 5322. Technical Report

Each Engineering student must submit a technical report on entering Engineering III. This essay should be from 2,000 to 5,000 words in length, on a topic drawn from the engineering experience of the student during his summer work, or in the case of an evening student, from his full-time employment.

If a suitable topic based on personal experience cannot be found, the student may apply to the Dean of the Faculty of Engineering for permission to write on a topic connected with engineering, scientific, or industrial work. The letter of permission must accompany the essay.

The essay must be completely documented and illustrated, must be typewritten on one side only of $8\frac{1}{2} \times 11$ inch white paper of good quality, and must be suitably bound. A series of lectures will be given in Engineering II in preparation for writing of the essay.

905 - Engineering 5323. Geology

Elements of mineralogy, petrology, structural geology, historical geology, physiography. Emphasis is laid on the relationship of geology to engineering practice.

Lectures: 2 hours per week, 2 terms.

Laboratory: 2 hours per week, 2 terms. Field trips to points of interest in and near Montreal.

905 - Engineering 5324. Engineering Problems

Digital computer applications to problems in engineering for students in the Mechanical option.

Conference and Laboratory: 2 hours per week, 1 term.

905 - Engineering 5325. Physical Metallurgy

Metallic deformation and annealing. Alloys, ferrous and non-ferrous. Heat treatment.

Lectures: 1 hour per week, 1 term.

Laboratory: 2 hours per week, 1 term.

905 - Engineering 5326. Digital Computer Programming

An introductory course in computer programming and computer use oriented to the IBM 1620.

Lectures: 2 hours per week, 1 term.

Laboratory: 2 hours per week, 1 term.

905 - Engineering 5341. Mechanics

The mechanics of systems of particles and rigid bodies; variable rectilinear and curvilinear motion; relative motion with respect to translating and rotating axes; vibration; gyroscopic motion; fluid mechanics. Vector calculus used freely.

Lectures: 2 hours per week, 2 terms.

905 - Engineering 5342. Mechanics of Machines

Instant centres, velocity and acceleration diagrams; design of simple mechanisms, cams, involute gear teeth; gear trains; belts.

Lectures and
Draughting Room: 2 hours per week, 2 terms.

905 - Engineering 5343. Strength of Materials

Stress, strain, elasticity of materials; shear and bending moment diagrams; beams and columns; torsion and bending in shafts and springs.

Lectures: 2 hours per week, 2 terms.
Laboratory: 3 hours per week, 1 term.

905 - Engineering 5351. Circuit Analysis

Response of circuit elements to steady and time-varying currents; phasor algebra; locus diagrams; network theorems; Fourier series.

Lectures: 2 hours per week, 2 terms.
Problems
and laboratory: 3 hours per week, 2 terms.

905 - Engineering 5352. Circuit Analysis

Introductory course in circuit theory for non electrical engineering students.

Lectures: 2 hours per week, 1 term.
Laboratory: 3 hours per week, 1 term.

905 - Engineering 5371. Surveying

Adjustment of level and transit; circular, vertical and spiral curves; polar planimeter; areas; land partition; chaining errors and corrections; earthwork calculations.

Lectures: 2 hours per week, 1 term.
Problem Period: See 5372.

905 - Engineering 5372. Surveying Problems

A course, complementary to 5371 for students in Civil option.
Problem Period: 2 hours per week, 1 term.

905 - Engineering 5381. Mechanical Engineering

Thermodynamics, steam properties, combustion, steam power plants, gas cycles, compressors, refrigeration, I-C engines, turbo-machinery, heat transfer, fluid dynamics.

Lectures: 2 hours per week, 2 terms.
Laboratory: 3 hours per week, 2 terms.

905 - Engineering 5363. Chemical Engineering Problems

Energy and material balances; properties of gases and gaseous mixtures; humidity; heats of reaction and combustion; gas analysis, hydrostatics; elementary fluid flow.

Conference: 1 hour per week, 2 terms.
Problem period: Hours to be arranged.
This course is no longer offered.

MATHEMATICS**902 - Mathematics 2231. Analytic Geometry**

Conic sections; polar coordinates; parametric representation; curve tracing; elementary solid geometry; simple statistical measures; curve fitting.

Lectures: 2 hours per week, 2 terms.
Problem Period: 1 hour per week, 2 terms.

902 - Mathematics 2251. Calculus

Limits; differentiation of the elementary functions with applications to maxima and minima, time-rates, errors and approximations; elementary integration with applications to areas, volumes, arc length, moments, etc.

Lectures: 2 hours per week, 2 terms.
Problem Period: 1 hour per week, 2 terms.

902 - Mathematics 2353. Calculus

Partial differentiation; multiple integrals; infinite series; vectors.

Lectures: 2 hours per week, 2 terms.

902 - Mathematics 2357. Differential Equations

Recognition and solution of equations of first order, homogeneous, linear, exact, etc.; second and higher order equations, solution by series; partial differential equations; applications.

Lectures: 2 hours per week, 2 terms.

902 - Mathematics 2224. Algebra and Spherical Trigonometry

Determinants; theory of equations; complex numbers, spherical triangles and applications.

Lectures: 2 hours per week, 1 term.
This course is no longer offered.

904 - Physics 4222. The Physics of Light and Heat

PHYSICS

904 - Physics 4222. Sound and Light

Simple harmonic motion using methods of calculus; waves; Huygen's principle, interference and diffraction of sound and light; acoustics; lenses and mirrors; aberrations; the eye; illumination; polarization; origin of spectra.

Lectures: 2 hours per week, 1 term.
Problem Period: 1 hour per week, 1 term.
Laboratory: 2 hours per week, 1 term.

904 - Physics 4232. Heat

Temperature; thermal properties of matter; gas laws; kinetic theory; first and second laws of thermodynamics; heat engines; heat transfer.

Lectures: 2 hours per week, 1 term.
Problem Period: 1 hour per week, 1 term.
Laboratory: 2 hours per week, 1 term.

904 - Physics 4354. Electricity and Magnetism

Analysis of direct-current circuits; steady-state magnetism; chemical and thermal effects of a current; electrostatic problems; charged particles in electric and magnetic fields.

Lectures: 2 hours per week, 1 term.
Laboratory: 3 hours per week, 1 term.

904 - Physics 4362. Modern Physics

An introductory course in atomic, solid-state, and nuclear physics, for Electrical engineers.

Lectures: 2 hours per week, 1 term.
Laboratory: Selected experiments.

905 - Engineering 3021. Engineering Drawing

An introductory course in engineering drawing, for students in the first year of the Engineering program.

Lectures: 2 hours per week, 1 term. 1000 software - 200
Problem Periods: 1 hour per week, 1 term. 1000 software - 200
Practicals: 2 hours per week, 1 term. 1000 software - 200
Laboratory: 2 hours per week, 1 term. 1000 software - 200

905 - Engineering 3337. Engineering Mathematics

An introductory course in engineering mathematics, for students in the first year of the Engineering program.

Lectures: 2 hours per week, 1 term. 1000 software - 200
Laboratory: 2 hours per week, 1 term. 1000 software - 200

905 - Engineering 5371. Surveying

An introductory course in surveying, for students in the first year of the Engineering program.

Lectures: 2 hours per week, 1 term. 1000 software - 200
Problem Periods: 1 hour per week, 1 term. 1000 software - 200

Engineering 4000-5000 Courses

400

Engineering 4000-5000 Courses

601 - English 211. Cultural Geography

This course emphasizes the development of creative writing skills, the skills of writing, of an effective presentation, and the ability to work effectively at the college level and beyond. Prerequisite: None.

601

Prerequisite: None. This course is designed to give the techniques of presentation, writing, and communication skills to the college level and beyond. Prerequisite: None. Recommended: ENG 1000 - 1005.

601

Prerequisite: None. This course is designed to give the skills of presentation, writing, and communication skills to the college level and beyond. Prerequisite: None. Recommended: ENG 1000 - 1005.

601

Prerequisite: None. This course is designed to give the skills of presentation, writing, and communication skills to the college level and beyond. Prerequisite: None. Recommended: ENG 1000 - 1005.

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Prerequisite: None. This course is designed to give the skills of presentation, writing, and communication skills to the college level and beyond. Prerequisite: None. Recommended: ENG 1000 - 1005.

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Faculty of Arts

FACULTY OF ARTS

John W. O'Brien, *Dean.*

THE HUMANITIES DIVISION

William R. Fraser, *Senior Professor in the Humanities Division.*

HUMANITIES

Rachel Wasserman, *Professor of Humanities.*

600 - Humanities 210. General Course in the Humanities

It is the purpose of this course to enlarge and enrich the student's comprehension of his cultural heritage by the study of Man as a unique creative being. The sources for this study of man are drawn primarily from the fields of history, philosophy, religion, literature and the arts with a view toward examining those experiences and ideas of enduring power which have shaped the nature of the modern man from the age of Greece to the present century. (Full course.)

600 - Humanities 421. Twentieth Century Humanism

Prerequisite: Philosophy 211 or 221, or other approved courses. Modern authors and philosophers are studied and discussed in an attempt to discover the trend of humanistic thinking in the present century. Particular emphasis is placed on global thinking, the effect of modern conditions on contemporary thought. (Full course.)

ENGLISH

Neil Compton, *Professor of English, and Chairman of the Department.*

Douglass Burns Clarke, *Professor of English and Fine Arts*

Rachel Wasserman, *Professor of Humanities.*

Wynne Francis, *Associate Professor of English.*

Sidney Stevens Lamb, *Associate Professor of English.*

Lorna Elizabeth MacLean, *Associate Professor of English.*

Rytta Tobias, *Associate Professor of English.*

Roslyn Belkin, *Assistant Professor of English.*

Michael Brian, *Assistant Professor of English.*

Audrey Bruné, *Assistant Professor of English.*

Mervin Butovsky, *Assistant Professor of English.*

Richard J. Sommer, *Assistant Professor of English.*

Malcolm Foster, *Lecturer in English.*

Anne M. Stokes, *Lecturer in English.*

601 - English 200. English Language

A non-credit course for students whose first language is other than English, designed to raise the student's level of expression to a standard which will enable him to work efficiently at the University. This course is offered as a one-semester course, but the student will remain in English 200 until, in the opinion of the instructor, he is able to express himself clearly and coherently. Although passing English 200 will fulfil the English language requirement for a student whose first language is other than English, students who pass this course may later elect to take English 201 or English 211 for credit.

601 - English 201. English Language and Composition

This course is designed for students who have completed secondary school or the equivalent in a language other than English and for whom, therefore, English is a secondary tongue. (Full course.)

NOTE:—Students who have credit for English 211 may not take this course for credit.

601 - English 211. College Composition

This course encourages the development, through practice in the skills of writing, of an effective prose style, to enable the student to work effectively at the college level and beyond. (Full course.)

601 - English 214. Reports, and Précis Writing

Prerequisite: English 211. A general introduction to the techniques of preparing reports, précis, minutes and other special types of concise and accurate expository prose. Class members are encouraged to co-ordinate their assignments with their other studies or their daily work. (Half course.)

601 - English 215. Public Speaking

Prerequisite: English 211. The aim of this course is to develop in the student the ability to express himself more effectively in everyday life, as well as to give practice in speaking before groups of people. (Half course.)

601 - English 216. Public Speaking, Advanced

Prerequisites: English 211, 215. Students in this course will be trained in the preparation and delivery of major speeches and lectures, during which they will be subject to questioning of the type to be expected in normal speaking engagements. (Half course.)

601 - English 221. Introduction to English Literature

This first year course studies the development of English literature from Chaucer to the present through the examination of individual works and their social background. Students are expected to attend regular conferences in addition to the lectures. (Full course.)

601 - English 222. Literature and the Modern World

Intended primarily for students in science or commerce, this introductory course is devoted mainly, although not exclusively, to a study of the literature of this century. Students are expected to attend regular conferences in addition to the lectures. (Full course.)

601 - English 241. World Literature—Classical

Through the medium of the best English translations, this course attempts to give the student a clear knowledge and appreciation of the great masterworks of thought and expression that are an important part of his cultural heritage from the Ancient World. (Half course.)

601 - English 242. World Literature—Medieval

A course complementary to English 241, which explores, through the reading of modern English versions, the literary heritage of the middle ages from Boethius to Dante; writings of the early Christian Church; Irish, Old English, Romanesque, Arthurian, Teutonic, Romance, and Late Latin Literature. (Half course.)

601 - English 243. World Literature—Modern

A course complementary to English 241, which attempts to extend the literary experience of the student beyond the confines of his mother tongue, and of those secondary languages which he is ordinarily able to learn. Through the medium of the best English translations, a study will be made of the outstanding literature of other modern languages, including the French, German, Russian, Italian, Spanish, and Scandinavian. (Half course.)

601 - English 244. Canadian Literature

Prerequisite: English 221 or 222. This course provides for the study of Canadian prose and poetry written in or translated into English. Particular emphasis is placed upon contemporary writers. (For a similar and complementary course in French, see French 231.) (Full course.)

601 - English 253. Shakespeare

Prerequisite: English 221. A study of Shakespeare's achievements as dramatist and poet, and the relationship of his work to the social and literary traditions of his day. Shakespeare's work as a whole will be surveyed in some detail: close attention will be paid to some five or six plays and to the Sonnets. (Full course.)

601 - English 261. Introduction to Poetry

Prerequisite: English 221. A study of the principles of poetry and its forms with special emphasis on the reading and analysis of all types of poetry with a minimum of historical and biographical detail. (Half course.)

601 - English 411. Advanced Composition

Prerequisite: English 211 with grade of C or above. English 411 is offered to those students who wish to continue in a writing course in order to gain greater effectiveness in composition for general purposes. (Full course.)

NOTE:—Students who have credit for English 212 may not take this course for credit.

601 - English 418. Creative Writing (Poetry)

Prerequisite: English 211, and permission of the instructor. This course offers advice and a critical reading of their work to advanced students with a special interest and ability in written expression. (Half course.)

NOTE:—This course is open to undergraduates only.

601 - English 419. Creative Writing (Prose)

Prerequisite: English 211, and permission of the instructor. This course offers advice and a critical reading of their work to advanced students with a special interest and ability in written expression. (Half course.)

NOTE:—This course is open to undergraduates only.

601 - English 431. Literature of the English Renaissance

Prerequisites: English 221, 253. A study of English literature from Wyatt to Marvell. (Full course.)

NOTE:—Only two full credits will be given from among English 431, 432, 433, and 468.

601 - English 434. English Literature of the Restoration and 18th Century

Prerequisites: English 221, and one additional credit in English Literature. A study of literature in English from 1660 to 1780. (Full course.)

601 - English 435. English Literature of the Romantic Period

Prerequisite: English 221. A study of prose and poetry from Blake to Keats. (Full course.)

NOTE:—Students who have credit for English 102 may not take this course for credit.

601 - English 436. Victorian Literature

Prerequisite: English 221. A study of the works of major writers in England from 1830 to 1900. (Full course.)

NOTE:—Students who have credit for English 102 may not take this course for credit.

601 - English 437. Modern British and American Literature

Prerequisite: English 221. A study of literature in English since 1900. (Full course.)

601 - English 444. Canadian Literature (Advanced)

Prerequisites: English 221 or 222, 244. A study at a more advanced level than is possible in English 244 of a limited number of major Canadian writers. (Half course.)

601 - English 445. American Literature

Prerequisite: English 221. A study of American prose and poetry from colonial times to the twentieth century. (Full course.)

601 - English 446. Modern European Literature

Prerequisites: English 221, and one additional credit in literature. A study of the work (in translation) of major European writers from 1880 to the present. (Full course.)

601 - English 453. Shakespeare (Advanced)

Prerequisites: English 221, 253. An advanced study of a limited number of plays. (Half course.)

601 - English 454. Chaucer

Prerequisites: English 221, and one additional credit in English Literature. A preliminary study of Chaucer's life and time: a systematic reading of Chaucer's works and a study of the language. (Half course.)

601 - English 455. Milton

Prerequisites: English 221, 253. A study of the poetry and prose of John Milton. (Half course.)

NOTE:—Students who have credit for English 106 may not take this course for credit.

601 - English 461. Modern Poetry

Prerequisites: English 221, 261. A study of the works of major poets in the English language in the twentieth century. (Half course.)

NOTE:—Beginning in 1965-66, the prerequisites for this course will be English 221, 437.

601 - English 462. The Modern Drama

Prerequisite: English 221. A study of the evolution of modern drama. Emphasis will be placed upon the plays of Ibsen, Shaw, and subsequent dramatists. (Half course.)

NOTE:—Students who have credit for English 262 may not take this course for credit.

Beginning in 1965-66, the prerequisites for this course will be English 221, 437

601 - English 463. The English Novel

Prerequisite: English 221. A study of the origin and development of the English Novel to the end of the Nineteenth Century with special emphasis on readings from Defoe to Henry James. (Full course.)

601 - English 464. Modern Fiction

Prerequisite: English 221. A study of the types, techniques, and themes of modern prose fiction. (Half course.)

NOTE:—Beginning in 1965-66, the prerequisites for this course will be English 221, 437.

601 - English 467. Literary Criticism

Prerequisites: At least three credits in literature. This course offers both a history of literary criticism from antiquity to the present and studies in the practice of the best contemporary critics. (Full course.)

NOTE:—Only one full credit will be given from among English 467, 465 and 466.

601 - English 468. English Renaissance Drama

Prerequisites: English 221, 253. A study of the English drama in the 16th and 17th centuries. (Full course.)

NOTE:—Only two full credits will be given from among English 431, 432, 433, and 468.

601 - English 471. Advanced Study of a Selected Period or Author

Senior students who wish to make an advanced study of a selected period or author will be admitted to this course. The work of each student will be supervised by the member of the English staff whose major field of interest is closest to the topic which the student intends to investigate. (Half course.)

NOTE:—No student may register for this course without prior permission from the Chairman of the Department.

601 - English 472. Advanced Seminar in a Special Subject

This course, intended for senior students with a good background of English courses, is designed to provide an opportunity for cooperative study and discussion of literature at a more advanced level than the normal lecture course will allow. It is taught, from year to year, by different members of the English faculty, and the subject itself changes in order to take advantage of the seminar leader's special talents and current interests. The special subject for 1964-65 will be:—Tragedy. (Full course.)

NOTE:—With the permission of the department, a student may take this course twice for credit, provided that a different subject is dealt with the second time. He will register the second time under the course number English 473.

601 - English 473. Advanced Seminar in a Special Subject

Prerequisite: English 472 and permission of the department. A student repeating English 472 a second time for credit registers under the course number English 473. The special subject for 1964-65 will be:—Utopian Literature. (Full course.)

601 - English 481. Anglo-Saxon

Prerequisite: At least three credits in English Literature. A study of language and literature in the Anglo-Saxon era. (Full course.)

English 254. The English Bible

A brief study of the Bible as literature and its development through the centuries. Particular attention is given to certain parts of the text. (Half course.)

This course is no longer offered. See Religion 251 and 252.

English 432. English Literature in the 16th Century

Prerequisites: English 221, and 253. In addition to the non-dramatic poetry and prose of the period, this course includes a study of the Elizabethan and Jacobean drama apart from Shakespeare. (Full course.)

This course is no longer offered.

English 433. English Literature of the 17th Century

Prerequisites: English 221, and 253. This course may not be taken by students who have credit for English 106. A study of literature from Donne to Dryden (excluding Milton). (Full course.)

This course is no longer offered.

English 465. Literary Criticism

Prerequisite: At least two full courses in English Literature. This course is a study of the factors involved in making literary judgments. It is not a history of criticism. (Half course.)

This course is no longer offered.

English 466. History of Literary Criticism

Prerequisite: At least two full courses in English Literature. A survey of critical thought from Aristotle to the present day. (Half course.)

This course is no longer offered.

Honours in English

Attention is called to the statement on honours on page 96.

Major in English

Attention is called to the statement on majors on page 100.

THE FINE ARTS

Alfred Pinsky, *Associate Professor of Fine Arts, and Chairman of the Department.*

Douglass Burns Clarke, *Professor of English and Fine Arts.*

Leah Sherman, *Assistant Professor of Fine Arts.*

Stanley E. Horner, *Lecturer in Fine Arts.*

602 - Fine Arts 211. Studio Course in Painting (Introductory)

Prerequisite: Fine Arts 231. A basic course divided between drawing, painting, and design, investigating the language of picture making. Shapes, lines, colours, textures, rhythms, patterns, and forms are explained in their relation to the world around us, to ideas, and to each other. (Full course.)

NOTE:—This course is open to undergraduates only. Partial students should consult the Announcement of the Sir George Williams School of Art for similar courses.

602 - Fine Arts 212. Stage Design

Prerequisite: Fine Arts 211 or equivalent. An introductory course in the design of stage scenery and costume. (Half course.)

602 - Fine Arts 221. Studio Course in Modelling and Sculpture

(Introductory)

Studio work is provided for undergraduate students who wish to acquire skills in modelling and sculpture. Continuation is possible through a three year period (See Fine Arts 421 and Fine Arts 422). Details of the additional fee charged for this course are available from the Bursar. (Half course or full course.)

NOTE:—This course is open to undergraduates only. Partial students should consult the Announcement of the Sir George Williams School of Art for similar courses.

602 - Fine Arts 231. Basic Principles of Art

An introductory course in art in which lectures and discussion are combined with elementary studio work. Principles common to all art are discussed, with the emphasis placed upon the recurring problems of the painter. An analysis is made of the various means by which the artist has interpreted those problems throughout the history of painting. The studio work consists of basic experiments with the elements used in painting to help the student towards an understanding and use of art as a visual language. No training or background in art is required and the course is planned to provide an opportunity for non-artists to enjoy creative activity and expression. Lectures and studio period. (Full course.)

602 - Fine Arts 232. Introduction to Architecture and Sculpture

To enable the student to understand and appreciate great works in architecture and sculpture, and to develop a discriminative understanding of three-dimensional form in design and in his architectural environment, the main types, styles, and techniques of these arts are explained and illustrated. To understand their significance, the student is encouraged to become familiar with great examples of these arts through pictorial reproductions, slides, models, museum visits, and field trips. (Full course.)

602 - Fine Arts 233. The Understanding and Appreciation of Music

To enable the student to understand and appreciate the great music of the world, and to develop taste and discrimination in music without the necessity of learning to play an instrument. The work of the course consists to a great extent in the actual hearing and analysis of the various types of music and composers, and in musically illustrated lectures and discussion. (Half course.)

NOTE:—Students who have credit for Fine Arts 234 may not take this course for credit.

602 - Fine Arts 234. Musical Theory and Form

A more advanced course for the non-performer, affording a more detailed study of musical form, harmony and rhythm, melody, with some consideration of the elementary aesthetics of music. Students with little or no listening experience should take Fine Arts 233 previously. (Half course.)

602 - Fine Arts 240. History of Art from Ancient Times to the French Revolution

An illustrated history of art from its beginning through its development in the western world until the French Revolution. (Full course.)

NOTE:—Only one full credit will be given from among Fine Arts 240, 241, and 242.

602 - Fine Arts 243. History of Modern Art

A history of Western art from the French Revolution to the contemporary scene. This course aims at an understanding and an evaluation of the various movements in modern art and of their relations to modern life. Illustrated. (Full course.)

602 - Fine Arts 244. Canadian Art

A survey of Canadian art beginning with native Indian objects and concluding with a study of styles and influences in modern Canadian painting, sculpture, and architecture. Illustrated. (Half course.)

602 - Fine Arts 245. The History of Music

A study of the development of music in relation to cultural history from antiquity to the present day, stressing the early formative period up to the peak of polyphonic writing. Topics for discussion will include: Greek, Chinese, and Hebrew music; sacred and secular monody; polyphony; Ars Antiqua; Ars Nova; Netherlands Schools; motet and madrigal; the "classical" outlook; the "romantic" outlook; impressionism; neoclassicism; atonalism; jazz and its influence. The course will be illustrated by recordings. No special background of musical training is required. (Half course.)

602 - Fine Arts 246. Beethoven

Prerequisite: Fine Arts 234 or equivalent. A study of the life and works of Ludwig von Beethoven. Beethoven's compositions as a whole will be surveyed: detailed studies such as the stylistic changes as illustrated in the quartets, advances in formal design, the problem of emotional content, and several other specific topics related to individual compositions will be discussed in full. This course will be illustrated with copious musical examples. (Half course.)

602 - Fine Arts 247. The History of the Theatre

Study of the development of theatrical production and the drama brings before the student the whole shifting scene of manners and customs, ideals and moral standards of the ages. This course traces the development of the theatre from the time of the Greek choragic dance to the modern talking picture and legitimate stage, showing at each step how the culture of that age has been condensed and reflected in the vital and permanent art form of the theatre. (Full course.)

602 - Fine Arts 248. The History of Interior Design

A survey of the history of interior design in western civilization, outlining briefly how particular styles developed out of the social customs, mores, and general spirit of the times. Special emphasis will be laid on the Renaissance, XVIIth Century, and contemporary styles. (Half course.)

602 - Fine Arts 249. Canadian Sculpture and Architecture

A study of the more important developments of Canadian architecture and sculpture from indigenous forms to contemporary work. (Half course.)

602 - Fine Arts 251. Art Techniques for Classroom Use

Techniques and materials of art for use in average classroom situations. A combination studio and lecture course of particular interest to teachers. Students are introduced to various creative art media including painting, collage, construction, modelling, and are encouraged to see their possibilities in relation to children's art at different levels. Methods of display and exhibitions of children's art work are dealt with, and means of correlating art with other subjects on the curriculum are considered. The importance and nature of art in child development is stressed with aid of films, slides, and selected readings. (Full course.)

602 - Fine Arts 252. The Technique of Play Production

A study of the fundamental theories of the aesthetics of the theatre and their relationship to the arts contributing to production. Students will participate in a practical programme of productions which will entail work in acting, staging, voice production, pantomime, make-up, lighting, and scenic design. Lectures and practice. (Full course.)

**602 - Fine Arts 411. Studio Course in Drawing and Painting
(Intermediate)**

Prerequisite: Fine Arts 211. A more advanced treatment of the various media and pictorial composition, with drawing and painting from life, and related problems in sculpture. An inventive and personal use of subject matter is again emphasized and the student is led to realize the possible variety of expression of his visual and emotional world. The study and interpretation of all schools of art, including naturalism and abstract art, helps the student through exploration to discover his own means of expression and development. (Full course.)

NOTE:—This course is open to undergraduates only. Partial students should consult the Announcement of the Sir George Williams School of Art for similar courses.

**602 - Fine Arts 412. Studio Course in Drawing and Painting
(Advanced)**

Prerequisite: Fine Arts 411. An advanced course in which the student is encouraged to choose his own projects, and is given the opportunity to do creative work under guidance and criticism. (Full course.)

NOTE:—This course is open to undergraduates only. Partial students should consult the Announcement of the Sir George Williams School of Art for similar courses.

602 - Fine Arts 413. Advanced Design Problems

Prerequisites: Fine Arts 211, 231. The application and exploration of design problems related to two and three dimensional media. This course aims at the awareness and use of design principles in everyday life. The perception of the visual aspects of our environment is emphasized, and integrated with formal and functional elements of design. The course includes lectures and laboratory experiments planned to stimulate perception and creativity in the following areas:—interior arrangement and design; selection of useful objects; response to the effects of mass media; concepts of contemporary architecture. Lectures and studio. (Full course.)

**602 - Fine Arts 421. Studio Course in Modelling and Sculpture
(Intermediate)**

This is the second year of a studio course in modelling and sculpture. (See Fine Arts 221). (Half course or full course.)

NOTE:—This course is open to undergraduates only. Partial students should consult the Announcement of the Sir George Williams School of Art for similar courses.

**602 - Fine Arts 422. Studio Course in Modelling and Sculpture
(Advanced)**

This is the third year of a studio course in modelling and sculpture. (See Fine Arts 221). (Half course or full course.)

NOTE:—This course is open to undergraduates only. Partial students should consult the Announcement of the Sir George Williams School of Art for similar courses.

602 - Fine Arts 431. Formal Analysis of Great Works of Art

Prerequisite: Fine Arts 231. An advanced course in art principles. Through the formal analysis of selected masterpieces of painting and sculpture the student is led to a fuller comprehension of the nature of formal order in the arts. (Full course.)

602 - Fine Arts 461. Introduction to Aesthetics

This course provides an introduction to the philosophy and psychology of aesthetics. Topics will include the nature of beauty and art, aesthetic experience, symbolic thinking and expression, art as symbolic activity, art as communication, and the principles of formal organization underlying all the arts: music, poetry, drama, sculpture, and painting. (Full course.)

Fine Arts 241. The History of Ancient and Medieval Art

A survey of the development of architecture, sculpture, and painting in ancient Egypt, Greece, and Rome, and in Early Christian and Medieval Europe, illustrated by an extensive collection of coloured and black-and-white slides, models, and other illustrative material. (Half course.)

This course is no longer offered.

Fine Arts 242. The History of Renaissance Art

A survey of the history of the development of Western Art from the fifteenth to the nineteenth centuries, illustrated by an extensive collection of coloured and black-and-white slides. (Half course.)

This course is no longer offered.

Fine Arts 453. Perception and Design

This course aims at the awareness and use of design principles in everyday life. The perception of the visual aspects of our environment is emphasized, and integrated with formal and functional elements of design. The course includes lectures and laboratory experiments planned to stimulate perception and creativity in the following areas:—interior arrangement and design; selection of useful objects; response to the effects of mass media; concepts of contemporary architecture. Lectures and studio. (Half course.)

This course is no longer offered.

Major in Fine Arts (Drawing and Painting)

Major in Fine Arts (Sculpture)

Attention is called to the statement on majors on page 100.

FRENCH

James Henry Whitelaw, *Professor of Modern Languages, and Chairman of the Department.*

Serge Losic, *Assistant Professor of French.*

Gilbert C. Taggart, *Assistant Professor of French.*

Albert Jordan, *Lecturer in French.*

Pierre Parc, *Lecturer in French.*

603 - French 201. Beginners' French

This course is designed for students who have not included French as one of their qualifications for admission. Instruction is given in grammar, translation, prose composition, and oral French. Satisfactory progress in this course will admit students to French 211 or 212. Lectures and laboratory. (Full course.)

NOTE:—Students who have received credit toward their admission for High School French may not take this course for credit.

Students whose first language is French, or whose schooling has been conducted in French, will not be admitted to this course.

603 - French 211. Introduction to College French

Prerequisite: four years of High School French, or equivalent. The aims of this course are (a) to increase the student's powers of comprehension of the spoken language, (b) to enable the student to read French with greater facility, and (c) to correct common grammatical errors. Texts are selected from French and French-Canadian literature, as well as from periodicals and the daily press. This course is not designed to give practice in oral French. This course is conducted in French. (Full course.)

NOTE:—Students whose first language is French, or whose schooling has been conducted in French, will not be admitted to this course.

Students who have credit for French 212 may not take this course for credit.

603 - French 212. Introduction to College French

Prerequisite: four years of High School French, or equivalent. This course is generally similar to French 211, except that a considerable proportion of the time is devoted to oral French, with less time being given to translation and composition. For this purpose, enrolment is restricted to twenty students. This course is conducted in French. (Full course.)

NOTE:—Students whose first language is French, or whose schooling has been conducted in French, will not be admitted to this course.

Students who have credit for French 211 may not take this course for credit.

603 - French 214. Intermediate College French

Prerequisite: French 211 or 212, or equivalent. Oral fluency will be promoted through class discussion and exposés based on current and literary topics. Attention will also be paid to accurate and idiomatic written expression. This course is intended to give suitable command of the language for students intending to study French literature, and for those contemplating or engaged in teaching the language. Enrolment is restricted to twenty students. This course is conducted in French. (Full course.)

NOTE:—Students whose schooling has been conducted in French will not be admitted to this course.

Students who have credit for French 213 may not take this course for credit.

603 - French 221. Introduction to French Literature

Prerequisite: French 211 or 212, or equivalent. This course, designed to act as a preparation for all courses in French literature, covers the principal literary trends from the Middle Ages to the present day. Students who have taken this course will then be able to relate subsequent and more detailed courses to the general framework of French literature and society, and will have acquired a working knowledge of such essentials as versification and other literary forms, as well as a familiarity with the "explication de texte". This course is conducted in French. (Full course.)

603 - French 231. French Canadian Literature and Culture

Prerequisite: ability to read French. The course is given in English. After a summary of the achievements of past generations, the main emphasis is on contemporary literature, the theatre of our time, and French-Canadian expression in the arts. (Half course.)

422 - French 411. Advanced Composition and Stylistics

Prerequisite: French 214. An advanced language course, designed to give the student practice in the finer points of the structure of the French language, together with an insight into its stylistic resources. Enrollment is restricted to twenty students. This course is conducted entirely in French. (Full course.)

424 - French 421. French Literature of the 16th Century

Prerequisite: French 221. Marot; Rabelais, Ronsard and la Pléiade; Montaigne. (Half course.)

603 - French 422. French Literature of the 17th Century

Prerequisite: French 221. This course covers the great classical period of French literature: the reform of the language, and the formation of the Classical doctrine; the tragic drama of Corneille and Racine; the comedy of Molière; the philosophy of Descartes and Pascal; the moral satire of La Fontaine and La Bruyère; the oratory of Bossuet; the beginnings of the Novel. (Full course.)

603 - French 423. French Literature of the 18th Century

Prerequisite: French 221. The "century of the philosophers"—The great interest in scientific knowledge, leading to the composition of the Encyclopédie; Montesquieu, Voltaire, Rousseau; the comedy of Marivaux and Beaumarchais; the poetry of Chénier; the beginnings of the Romantic movement; the literature of the Revolution. (Half course.)

603 - French 425. French Literature of the 20th Century

Prerequisite: French 221. A study of the work of major French writers from the beginning of the 20th Century to the present day. (Full course.)

603 - French 426. Literature of the Romantic and Realist Periods

Prerequisite: French 221. The fore-runners of Romanticism — Chateaubriand and Madame de Staél. Romanticism — Lamartine, Vigny, Hugo, Musset. The novel — Stendhal, Balzac, Flaubert, Zola. (Full course.)

NOTE:—Students who have credit for French 424 may not take this course for credit.

603 - French 427. Nineteenth Century Poetry from Baudelaire to Mallarmé

Prerequisites: French 221; 426 previously or concurrently. The beginnings of modern French poetry — Nerval and Baudelaire. The Parnassiens — Gautier, Leconte de Lisle, Héridéa. The Symbolists — Rimbaud, Verlaine, Mallarmé. (Half course.)

NOTE:—Students who have credit for French 424 may not take this course for credit.

603 - French 451. Advanced Study of a Special Subject

Prerequisites: French 221, two additional credits in French literature. This course, open only to fourth year students majoring in French, provides the opportunity of studying a subject in depth. Students work individually under supervisor. (Full course.)

Subject for 1964-65: Jean Racine.

French 213. French Idioms, and Vocabulary.

Prerequisite: French 211 or 212, or the equivalent. The aim of this course is fluency and accuracy in the spoken language. Topics for discussion are based on current events and everyday situations. Enrollment is restricted to twenty students. (Full course.)

This course is no longer offered.

French 424. French Literature of the 19th Century

The fore-runners of Romanticism — Chateaubriand and Madame de Staél; Romanticism — Lamartine, Vigny, Hugo, Musset; the novel — Stendhal, Balzac, Mérimée; Realism and Naturalism — Flaubert, Maupassant, Zola; the poetry of Baudelaire, the Parnassiens, the Symbolists. (Full course.)

This course is no longer offered.

Major in French

Attention is called to the statement on majors on page 100.

GERMAN

Annmaria Ketter, *Assistant Professor of German.*

604 - German 211. Introductory Course in German

A beginner's course in the German language which is designed, in one year, to make the student conversant with the grammar, pronunciation and ordinary vocabulary of the language. Emphasis is placed upon learning to speak the language, as well as to read and write it. Lectures and laboratory. (Full course.)

NOTE:—Students whose first language is German, or whose schooling has been conducted in German, will not be admitted to this course.

Students who have credit for German 215 may not take this course for credit.

604 - German 212. German Language - Intermediate

Prerequisite: German 211 or equivalent. Advanced instruction in the language. Emphasis upon idiom and usage in conversation and composition. Representative readings from the works of German writers. (Full course.)

NOTE:—Students whose first language is German, or whose schooling has been conducted in German, will not be admitted to this course.

604 - German 215. German for Reading Knowledge

This course will give the student sufficient background in the structure of the language to be able to read German with reasonable competence. Practice material will be both technical and non-technical. No previous knowledge of the language is required. (Full course.)

NOTE:—Students whose first language is German, or whose schooling has been conducted in German, will not be admitted to this course.

Students who have credit for German 211 may not take this course for credit. This is a terminal course, and may not be used as a prerequisite for advanced courses in German.

604 - German 421. Advanced German and Introduction to German Literature

Prerequisite: German 212 or equivalent. This course, given entirely in German, will offer the student opportunities for advanced oral and written expression, and the study of a period of German literature. (Full course.)

GREEK

Paul Frederick Widdows, *Assistant Professor of Classics, and Chairman of the Department.*

605 - Greek 211. Introductory Course in Greek

The purpose of this course is to enable a student, in one year, to gain an adequate knowledge of Greek grammar and syntax and to read simple passages of Greek quickly and accurately. (Full course.)

605 - Greek 212. Greek Language and Literature

The purpose of this course is to complete the study of Greek grammar and syntax begun in Greek 211, and to enable students to begin reading Greek authors. A book of Xenophon or Herodotus and the Gospel of St. John will be read. (Full course.)

605 - Greek 421. Greek Literature

This is essentially a reading course involving the study of certain of the great works of Greek literature. The books to be read are the Gospel of St. Mark, a book of Homer, and a Greek play. It is assumed that students taking this course have an adequate knowledge of Greek grammar and a fair vocabulary. (Full course.)

605 - Greek 422. Greek Literature

A further study of Greek literature (to follow Greek 421) including a play by Sophocles, a book by Thucydides and a book by Plato. (Full course.)

Major in Classics

Attention is called to the statement on majors on page 100.

HEBREW

The Department of Modern Languages reserves the right to place any student in the course for which he is best suited.

606 - Hebrew 211. Introductory Course in Hebrew

A beginners' course in Hebrew, spoken and written, with reading of classical and modern texts. Lectures and laboratory. (Full course.)

606 - Hebrew 212. Intermediate Course in Hebrew

Prerequisite: Hebrew 211 or equivalent. Readings in the Bible and an introduction to Modern Hebrew Literature. This course will also complete the study of Hebrew grammar and syntax begun in Hebrew 211, with special emphasis on modern Hebrew usage. (Full course.)

606 - Hebrew 421. Hebrew Literature

Prerequisite: Hebrew 212 or equivalent. A study of classical and modern works of Hebrew literature, together with advanced work in the language. (Full course.)

JOURNALISM

607 - Journalism 211. News Writing and Reporting

Prerequisite: English 211 or equivalent. An introduction to the technique of newspaper writing and reporting, concentrating mainly on the writing of news articles but touching such related topics as the following: the identification and obtaining of news, its preparation and distribution, the structure of the modern newspaper, the role of the newspaper in a democratic society, the ethics of journalism, various types of newspaper writing. (Half course.)

LATIN

Paul Frederick Widdows, *Assistant Professor of Classics, and Chairman of the Department.*

608 - Latin 201. Beginners' Latin

This course is designed for students who have had no previous Latin and is particularly recommended for those students who wish to be prepared for Latin 211. The course offers instruction in Latin Grammar, Translation and Prose Composition. (Full course.)

NOTE:—Students who have received credit toward their admission for High School Latin may not take this course for credit.

608 - Latin 211. Latin Composition and Translation

Advanced instruction in Latin prose composition and syntax with practice in sight translation. The course also includes translation and literary interpretation of prescribed selections from the Latin classics in poetry and prose. (Full course.)

608 - Latin 421. Latin Literature

The purpose of this course is to provide students, interested in the subject, with a wider and deeper knowledge of the Roman people, their history, life and literature, by the reading of selected works of the best known Latin writers of the Late Roman Republic and the Early Roman Empire. (Full course.)

608 - Latin 422. Latin Literature (Advanced)

A continuation of Latin 421, concentrating on a particular period or the works of a particular author, e.g. Juvenal and Tacitus, or Lucretius. (Full course.)

608 - Latin 423. Latin Literature

A parallel course to Latin 422, covering different authors, e.g. Latin Comedy, Latin Elegists or Horace. As Latin 422 and Latin 423 will not usually be given in the same year, Latin 423 may be taken before Latin 422. (Full course.)

Major in Classics

Attention is called to the statement on majors on page 100.

MATHEMATICS

Mathematics 201, 213, 223, 233, 241, 431, 441, 451, 452, 457, 458, 459, 461, 462, 463, 471

See Faculty of Science for description of courses.

PHILOSOPHY

William Ross Fraser, *Professor of Philosophy, and Chairman of the Department.*
Owen Dukelow, *Associate Professor of Philosophy.*
Roger B. Angel, *Assistant Professor of Philosophy.*

609 - Philosophy 211. A General Study of Philosophical Problems

The purpose of this course is to distinguish philosophy from art, science, and religion; to study the critical work of philosophy with regard to some basic concepts and methods relevant to such fields; and to consider the constructive work of philosophy as shown in the development of major world-views. (Full course.)

609 - Philosophy 221. Great Philosophers, Ancient, Medieval, and Modern

This course aims to make the student conscious of his own intellectual heritage by means of a first-hand acquaintance with the thought of those philosophers, from Plato to the present day, who have been most influential in the moulding of the Western mind. It will also illuminate the character of philosophic problems by showing how they persist through a variety of forms, and are restated from age to age. Readings, lectures and discussions. (Full course.)

609 - Philosophy 231. Philosophy of Religion

This course considers the nature, method, and value of religion; the relation between religion and science, and between religion and philosophy; the concepts of God, prayer, evil, freedom, and immortality; and outstanding types of religious philosophy. (Half course.)

609 - Philosophy 241. Ethics

This course begins with a brief introduction to the major theoretical problems of ethics. An intensive study of the ethical theories of Plato, Mill and Kant is then pursued. (Half course.)

609 - Philosophy 242. Social Philosophy

The purpose of this course is to examine the problem of securing agreement, between the individual and others, on various questions of "public" morality. Special attention is given to conflicting attitudes concerning women in society, medical ethics, censorship in all fields, political, economic, and democratic ideals. (Half course.)

609 - Philosophy 251. Logic

Beginning with stress on different functions of language and on errors in symbolism, this course considers the problem of definition, mediate and immediate inferences, fallacies in deduction, and extension of traditional logic. (Half course.)

NOTE:—Only one-half credit will be given from among Philosophy 251, 451, and 454.

609 - Philosophy 261. Philosophic Ideas in Literature

This course is a critical survey of concepts that have been widely influential through poetry and prose. Theories of beauty, of knowledge, of human conduct and religion, and of cultural change receive special attention. Class discussion on masterpieces in world literature is particularly encouraged. (Full course.)

609 - Philosophy 411. Contemporary Philosophy

Prerequisite: Philosophy 211 or 221. A critical study of contemporary tendencies in Logic, Epistemology, Theory of Value, and Metaphysics. There will be readings and class discussions in respect of such philosophers as Santayana, Russell, Whitehead, and Dewey with special reference to their outlook on scientific methodology, education, ethical and aesthetic values, political and economic problems, and the philosophy of religion. (Full course.)

609 - Philosophy 412 Systems of Philosophy

Prerequisite: Two credits in Philosophy. This course seeks finer appreciation of attempts to consider man and nature from a persisting point of view. Among the systems of philosophy considered are supernaturalism (including Scholasticism), naturalism (including dialectical materialism), idealism, realism, and pragmatism. Special attention is given to students desiring discussion on implications of various world-views. (Full course.)

609 - Philosophy 413. Contemporary Epistemology

Prerequisite: Philosophy 211. A systematic introduction to contemporary problems of epistemology with special reference to idealism, American and English realism, empirical pragmatism, conceptual pragmatism, phenomenism, physicalism, and linguistic analysis. (Half course.)

609 - Philosophy 421. British Empiricism

Prerequisite: Philosophy 211 or 221. This course studies intensively the works of Locke, Berkeley, and Hume. (Full course.)

609 - Philosophy 452. Scientific Methods

In this course, after study of the nature of a scientific system, and of inductive reasoning, there follows an analysis of the principles of causal determination. The next stage deals with the formal requirements of a scientific hypothesis and of hypothetical methods. The logic of the various experimental methods used in testing hypotheses is then carefully examined. After a brief survey of statistical methods, the course ends with a comparison between the experimental and the historical sciences. (Half course.)

NOTE:—Students who have credit for Philosophy 106 may not take this course for credit.

609 - Philosophy 453. Philosophy of Science

Prerequisites: Philosophy 211; 251 or 451 or 452 unless special permission allows for alternatives. This study deals with the analysis of major concepts and pre-suppositions of the sciences and with attempts to formulate a philosophy compatible with the broader implications of scientific theories. Among different interpretations of science, are considered the positivistic, the idealistic and the materialistic. In this course lectures are kept at a minimum, and students present papers to be discussed and criticized. (Full course.)

609 - Philosophy 454. Modern Logic

Prerequisites: Philosophy 211 or four credits in Mathematics. Designed for the student who is interested in the technical aspects of logic, this course will introduce him to the techniques of symbolic logic with special reference to valid argument forms, definitions, truth-tables and quantification. (Half course.)

NOTE:—Only one-half credit will be given from among Philosophy 251, 451, and 454.

609 - Philosophy 471. The Study of a Given Thinker

Prerequisite: Philosophy 211 or 221. Each year this course concerns one philosopher (ancient, medieval, or modern) of outstanding importance. Special attention is given to the cultural background, the personal development, and the leading theories of the thinker, as well as to critical evaluations of his work. (Full course.)

Subject for 1964-65: John Dewey.

NOTE:—With the permission of the department, a student may take this course twice for credit, provided that a different philosopher is dealt with the second time. He will register the second time under the course number Philosophy 472.

609 - Philosophy 472. The Study of a Given Thinker

Prerequisite: Philosophy 471 and permission of the department. A student repeating Philosophy 471 a second time for credit registers under the course number Philosophy 472. (Full course.)

609 - Philosophy 451. Logic

Beginning with stress on different functions of language and on errors in symbolism, this course considers the problem of definition, mediate and immediate inferences, fallacies in deduction, and extension of traditional logic. (Half course.)

NOTE:—Students who have credit for Philosophy 454 may not take this course for credit.

This course is no longer offered.

Major in Philosophy

Attention is called to the statement on majors on page 100.

RELIGION

610 - Religion 211. Religion 211 - 1.0 credit - 016

Boyd G. Sinyard, *Associate Professor of Religion, and Chairman of the Department.*

John L. Rossner, *Lecturer in Religion.*

610 - Religion 213. The Religions of the World

Historical and critical introduction to the study of religion; the religions of the ancient Near East; Greek and Roman religion; Judaism, Zoroastrianism, Manichaeism, Mithraism and Islam; the religions of India, China and Japan. Consideration is given to the philosophical, theological, ethical and cultural implications. (Full course.)

NOTE:—Only one full credit will be given from among Religion 211, 212, and 213.

610 - Religion 221. Christianity

An academic approach to the understanding of the major tenets of Christianity. Attention is given to contemporary Christian thought and its relation to other fields of enquiry. Complemented by Religion 231. (Half course.)

610 - Religion 222. Religious Education

Curriculum and practice in religious education. This course should be of special interest to teachers, YMCA secretaries, etc. (Half course.)

610 - Religion 231. Christian Ethics

The theological and philosophical presuppositions of Christian Ethics; the teachings of Jesus; the Christian ethical norm; Christian ethics and moral philosophy. It is recommended that Religion 221 be taken previously. (Half course.)

610 - Religion 243. History of Christian Thought

A study of Christian thought and culture in the Graeco-Roman world; the Middle Ages and the Early Modern Period. The course is designed to give the student a perspective of the history of Christian thought, insight into its origins and the mode of its development with general history of Western European culture. (Full course.)

NOTE:—Only one full credit will be given from among Religion 241, 242, and 243.

610 - Religion 251. Introduction to the Old Testament

An introduction to Old Testament studies; the history, culture and religion of Israel; critical survey of Old Testament literature. (Half course.)

610 - Religion 252. Introduction to the New Testament

An introduction to New Testament studies; a critical survey of New Testament literature, considering historical setting, history of text, cultural and religious significance. (Half course.)

610 - Religion 411. Hinduism

Prerequisite: Religion 211 or 212 or 213, or Philosophy 231. A comprehensive study of the religion, philosophy, ethics, history and culture of Hinduism. (Half course.)

610 - Religion 412. Buddhism

Prerequisite: Religion 211 or 212 or 213, or Philosophy 231. A comprehensive study of the philosophy, ethics and religion of Buddhism, including Zen Buddhism. (Half course.)

610 - Religion 413. Islam

Prerequisite: Religion 211 or 212 or 213, or Philosophy 231. Pre-Islamic Arabia; the Prophet; the QUR'AN. The period of the four Caliphs and Ummayad period. The Abbasids; Mongols and the Fatimid caliphate. The philosophy of Ibn Rushd, Ibn Sina and Ghazzali. Medieval Islam; the impact of the West; Islamic modernism. The social, political and ethical problems of present-day Islam. (Full course.)

610 - Religion 414. Judaism

Prerequisite: Religion 211 or 212 or 213 or 251, or Philosophy 231. A comprehensive study of the history, law, ethics, religion, philosophy and culture of the Jewish people. (Full course.)

610 - Religion 443. Contemporary Philosophy of Religion

Prerequisite: two full courses in Religion and/or Philosophy or approval of the instructor. An advanced course in philosophy of religion involving a critical and systematic study of selected trends and authors in religious philosophy. (Full course.)

610 - Religion 444. Existentialism and Religion

Prerequisite: two full courses in Philosophy and/or Religion. A study of selected works of authors usually associated with the rise of this mood in modern philosophy (Kierkegaard, Nietzsche, Sartre, Jaspers, Camus, Kafka, Buber, Marcel, Tillich, Heidegger, et. al.). Attention is to be given to the existentialist analysis of the human predicament and its effect on current religious philosophy. (Full course.)

See also: - Philosophy 231. - Philosophy of Religion.

610 - Religion 211. The Religions of the Near East

Introduction to the study of religion; religion in primitive cultures; Babylonian-Sumerian, Egyptian, Greek and Roman religion. Historical and critical introduction to Zoroastrianism, Judaism, Manichaeism, Mithraism and Islam. Complemented by Religion 212. (Half course.)

This course is no longer offered.

610 - Religion 212. The Religions of India and the Far East

Introduction to the historical and systematic study of Hinduism, Jainism, Buddhism, Sikhism, Confucianism, Shintoism and Zen Buddhism. Consideration is given to the philosophical, ethical and cultural implications as well as the theological. (Half course.)

This course is no longer offered.

610 - Religion 241. History of Christian Thought — (a)

A survey of the development of Christian thought to the early middle ages supplemented with selected reading. (Half course.)

This course is no longer offered.

610 - Religion 242. History of Christian Thought — (b)

A continuation of Religion 241. The medieval synthesis, the reformation; enlightenment and romanticism; liberalism, socialism and historical criticism; contemporary Christian thought. (Half course.)

This course is no longer offered.

Major in the History and Philosophy of Religion

Attention is called to the statement on majors on page 100.

RUSSIAN**611 - Russian 211. Introductory Course in Russian**

An introductory course designed to act as a basis for those wishing to learn to read and speak the Russian language. Lectures and laboratory. (Full course.)

NOTE:—Students whose first language is Russian, or whose schooling has been conducted in Russian, will not be admitted to this course. Students who have credit for Russian 215 may not take this course for credit.

611 - Russian 212. Intermediate Russian

Prerequisite: Russian 211 or equivalent. Advanced oral and grammatical work. Translation and reading of varied texts, including a Russian novel in the original. (Full course.)

NOTE:—Students whose first language is Russian, or whose schooling has been conducted in Russian, will not be admitted to this course.

611 - Russian 215. Reading Course in Russian

This course will give the student sufficient grasp of the structure of the language and sufficient basic vocabulary to be able to read Russian with the aid of a dictionary. (Full course.)

NOTE:—Students whose first language is Russian, or whose schooling has been conducted in Russian, will not be admitted to this course.

Students who have credit for Russian 211 may not take this course for credit. This is a terminal course, and may not be used as a prerequisite for advanced courses in Russian.

SPANISHJohn D. Grayson, *Assistant Professor of Spanish***612 - Spanish 211. Introduction to the Spanish Language**

A beginner's course in the Spanish language, which is designed in one year to make the student conversant with the main grammatical principles, pronunciation and ordinary vocabulary of the language. Practice is given in reading, writing and conversation, particular emphasis being placed on oral work. In the second term classes are conducted as far as possible in Spanish. Lectures and laboratory. (Full course.)

NOTE:—Students whose first language is Spanish, or whose schooling has been conducted in Spanish, will not be admitted to this course.

612 - Spanish 212. Intermediate Spanish

Prerequisite: Spanish 211. In this course conversation and reading are continued and more work is offered in translation and composition. Included also are readings from Spanish literature, designed to aid in the development of effective expression in the language. As far as possible all classes are conducted in Spanish. (Full course.)

NOTE:—Students whose first language is Spanish, or whose schooling has been conducted in Spanish, will not be admitted to this course.

612 - Spanish 421. Advanced Spanish and Introduction to Literature of Spanish America

Prerequisite: Spanish 212 or equivalent. Advanced composition and oral work. Introduction to Spanish-American literature. Classes will be conducted in Spanish. (Full course.)

612 - Spanish 422. Advanced Spanish and Introduction to Literature of Spain

Prerequisite: Spanish 212 or equivalent. Advanced composition and oral work. Introduction to Spanish literature. Classes will be conducted in Spanish. (Full course.)

Spanish 213. Advanced Spanish

Translation, composition, correspondence, and essay-writing of an advanced character. Ample opportunity will be given for conversational practice and self-expression in the language. All lectures will be conducted in Spanish. (Full course.)

This course is no longer offered.

CANADIAN STUDIES**613 - Canadian Studies 411. Seminar in Canadian Studies**

Prerequisite: registration in fourth year of the major in Canadian Studies. This is a seminar course in Canadian Studies which involves participation by interested members of the staff as well as by students in the fourth year of the major in Canadian Studies. (Full course.)

Major in Canadian Studies

Attention is called to the statement on majors on page 100.

701 - Economics 422. Theory of International Growth

Prerequisite: Economics 201. A study of the development of international trade, particularly in the field of agriculture, and the effect of international trade on the economic development of Canada. (Full course.)

John W. O'Brien, *Dean.*

701 - Economics

Prerequisite: Economics 201. A study of the development of international trade, particularly in the field of agriculture, and the effect of international trade on the economic development of Canada. (Full course.)

Herbert Quinn, *Senior Professor in the Social Sciences Division.*

SOCIAL SCIENCE

Jack Goldner, *Assistant Professor of Social Science.*

700 - Social Science 210. General Course in the Social Sciences

This pandemic course has the same point of view and objectives with regard to the social sciences as Natural Science 210 has regarding the natural sciences. It has a twofold purpose; first, to introduce the student to some of the basic concepts and subject matter of the various social sciences; second, to provide him with some knowledge of contemporary society and the problems which confront it. The social sciences surveyed are Anthropology, Psychology, Sociology, Human Geography, History, Economics, and Political Science. (Full course.)

700 - Social Science 241. Statistical Methods for the Social Sciences

Prerequisite: High School Algebra. This is an introductory course in statistical methods for students in economics, psychology, sociology, and other social sciences. The topics dealt with include the collection, classification, presentation, analysis, and interpretation of data pertaining to social phenomena. The methods studied will include: frequency distributions; graphic and tabular presentation; measures of central tendency and dispersion; scales of measurement; index numbers and time series; parametric and non-parametric sampling distributions and probability theory; statistical inference; correlation; linear regression; chi-square; reliability and validity; item analysis; analysis of variance; and several non-parametric measures of association. The student will acquire familiarity with these methods by applying them to appropriate data during the practice periods. Lectures and practice period. (Full course.)

NOTE:—Only one full credit will be given from among Economics 481, Mathematics 241, and Social Science 241.

700 - Social Science 251. General Semantics

A course in the use and structure of language, and other symbol systems, as they affect problems of everyday living. An attempt is made to show how the static meanings arising from many of our language habits work to prevent ready-adjustment to the situations of a constantly changing world. Scientific orientation is considered with a view to its application in the broader field of human affairs, with special emphasis on communication. (Half course.)

ANTHROPOLOGY — See under Sociology

ECONOMICS

Arthur Lermer, *Professor of Economics, and Chairman of the Department.*
 John Wilfrid O'Brien, *Associate Professor of Economics.*
 Muriel Armstrong, *Assistant Professor of Economics.*
 Geraldine Fulton, *Assistant Professor of Economics.*
 Abraham Tarasofsky, *Assistant Professor of Economics.*
 Michael Davenport, *Lecturer in Economics.*
 Tilak Nijhowne, *Lecturer in Economics.*

Commerce students interested in general courses in Economics should take, in addition to Economics 211,—Economics 221, 271, 451 or 461.

701 - Economics 211. Introduction to Economics

While this course is an essential introduction for the student who is proceeding to other courses in economics, it is designed to inform every student, whatever his field may be, of some of the basic principles of modern economic theory and their relationships to everyday business. The concept and purpose of national income analysis is explained, and the inter-related problems of consumer spending, saving and investment are discussed with special reference to the banking system, credit policies and the role of government in the business world today. This is co-ordinated with an outline of the theory of the firm and the relation of the individual firm to the whole economy, tracing the process of price-determination through an analysis of the concepts of competition and monopoly. (Full course.)

701 - Economics 221. General Economic History

Prerequisite: Economics 211. This course is designed as a general inquiry into the process of economic change from the beginnings of the ancient civilizations to the industrial revolution. Emphasis is placed on the Western World. An attempt is made to test some basic principles of Dynamic Economic Theory by historical evidence and the application of the historical method. (Full course.)

701 - Economics 271. Labor Economics

Prerequisite: Economics 211. A study of the theoretical, institutional and sociological aspects of labor relations. In particular, the course will deal with a survey of modern wage theory; the theory and practice of collective bargaining; the scope and limitations of the sociological approach; the history and functioning of trade unions, particularly in Canada; the role of the government and the legislative process in labor relations. (Full course.)

701 - Economics 411. Intermediate Economic Theory

Prerequisite: Economics 211. This course is designed for the student honouring or majoring in economics. It is a basic course in micro-economic theory; market price determination, theory of consumer demand, theory of the firm, and distribution theory. (Full course.)

701 - Economics 412. Advanced Economic Theory

Prerequisite: Economics 211, 411 or permission of the department. An extension of Economics 411 with special emphasis on the theory of the firm and the theory of distribution. (Full course.)

701 - Economics 421. History of Economic Thought, Ideas, and Theories

Prerequisite: Economics 211, 411. A brief study of the development of economic thought, with special emphasis on the classical and Neo-classical period, as an introduction to modern economic theories. (Full course.)

701 - Economics 422. Theory of Economic Growth

Prerequisite: Economics 211. A survey of theories and determinants of economic growth and development including a study of population movements, capital formation and migration, entrepreneurship, etc., as well as a comparison of developed and underdeveloped economies. (Full course.)

701 - Economics 423. Economic Development of French Canada

Prerequisite: Economics 211. French Canadian economic development is considered in relation to the quest for cultural survival of French Canada. This course will review past and present trends in the economic behaviour of French Canadians. Emphasis will be placed on economic growth of Quebec since the Second World War and the economic changes through which French Canada is passing at the present time. The rise of French Canadian economic institutions to prominence, the roles of French Canadian capital and skill, and the influence of the provincial government will be thoroughly discussed. (Half course.)

NOTE:—Students who have credit for Economics 223 may not take this course for credit.

701 - Economics 424. Canadian Economic Development and Policy

Prerequisite: Economics 211. This course is designed to introduce the student to Canadian economic development from the early period of settlement to the present day. Emphasis will be placed on problems and policies of the Canadian economy. (Full course.)

NOTE:—Students who have credit for Economics 224 may not take this course for credit.

701 - Economics 425. Studies in Economic Growth

Prerequisites: Economics 211, 422. An analysis of the economic plans and policies of specific key countries and an attempt to test economic theories of growth and development in both developed and underdeveloped areas. (Half course.)

701 - Economics 426. Seminar in Economic History

Prerequisites: Economics 211, 221. An attempt to relate the economic development of major countries in the modern world (in Asia, Europe, and North America), to trace the history of forms of economic organization, institutional development and technology, and to test some basic principles of economic theory by historical evidence. (Half course.)

701 - Economics 444. Marxism and the Communist Economic Systems

Prerequisite: Economics 211. This course will trace the origin of Marxism, the basic principles of the philosophy of Historical Materialism and the Theory of Economic Development. The Russian Revolution, the role of Lenin and Stalin and the evolving Communist system will be studied, followed by consideration of other Communist patterns such as the Chinese and Yugoslav. A critical evaluation of the theory and its application will round out the course. (Half course.)

NOTE:—Students who have credit for Economics 443 may not take this course for credit.

701 - Economics 445. Welfare Economics and the Welfare State

Prerequisites: Economics 211, 444. This course will begin with a theoretical analysis of Welfare Economics and trace the empirical development of various patterns of the Welfare State with particular emphasis on the British, Scandinavian, and American systems. (Half course.)

NOTE:—Students who have credit for Economics 443 may not take this course for credit.

701 - Economics 451. Money and Banking

Prerequisite: Economics 211. A study of the nature and function of money; commercial and central banking; aims and techniques of monetary policy; the money market; foreign exchange; some aspects of modern monetary theory; the problem of inflation. (Full course.)

NOTE:—Students who have credit for Economics 251 or 452 may not take this course for credit.

701 - Economics 452. Monetary Theory

Prerequisite: Economics 211. A study of the nature and functions of money and banking. (Full course.)

NOTE:—This course is intended primarily for students honouring in Economics. Others should take Economics 451.

Students who have credit for Economics 251 or 451 may not take this course for credit.

701 - Economics 453. Economic Fluctuations and Economic Policy

Prerequisites: Economics 211; 451 or 452. A survey of theories advanced to explain economic fluctuations in industrial economies and a discussion of monetary, fiscal and other policies that may be used to mitigate such fluctuations. (Full course.)

NOTE:—Only one full credit will be given from among Economics 441, 442, and 453.

701 - Economics 461. International Economic Relations

Prerequisite: Economics 211. A study of the background and development of contemporary international economic problems. The balance of payments and the various equilibrating mechanisms. The theory and operation of the gold standard. World War I and its aftermath: reparations and war debts; inflation; the restoration of the gold standard and its eventual collapse, the experience of the 1930's. Postwar international institutions: IMF, GATT, etc. The stages of recovery. European integration and the common market. The sterling system and convertibility. European clearing systems. Today's gold exchange standard. (Full course.)

NOTE:—Students who have credit for Economics 261 may not take this course for credit.

701 - Economics 483. Mathematical Economics

Prerequisites: Economics 211 and High School Algebra and Geometry. The application of mathematics to economic theory including some linear programming. The course involves selected topics in mathematics with emphasis on calculus. Lectures and practice period. (Full course.)

Economics 222. Economic Development of Canada

Prerequisite: Economics 211. This course covers the history of Canadian economic growth from the first settlement to recent trends in the Canadian economy. An inquiry into the geographic, political, and sociological background of Canadian economic growth will be undertaken. Economic aspects of Canada's relation to the United Kingdom and the United States in retrospect will be fully emphasized. The principal aim of the course is to assist the student to grasp the nature, scope, and significance of the rise of the Canadian economy to the present industrial level. An appreciation of the impact of Confederation, the national policy, Dominion-Provincial relations, the institutional structure of the Canadian economy constitute a major part of this course. (Full course.)

This course is no longer offered. See Economics 424.

701 - Economics 223. Economic Development of French Canada

Prerequisite: Economics 211. French Canadian economic development is considered in relation to the quest for cultural survival of French Canada. This course will review past and present trends in the economic behaviour of French Canadians. Emphasis will be placed on economic growth of Quebec since the Second World War and the economic changes through which French Canada is passing at the present time. The rise of French Canadian economic institutions to prominence, the roles of French Canadian capital and skill, and the influence of the provincial government will be thoroughly discussed. (Half course.)

This course is no longer offered.

Economics 441. Public Finance and Fiscal Policy

Prerequisite: Economics 451. A general study of the principles and practice of government finance, the use of the budget to maintain a stable economy, the public debt, techniques of deficit and surplus finance, war finance, taxation theory. (Half course.)

This course is no longer offered. See Economics 453.

Economics 442. Business Cycle Theory

Prerequisite: Economics 451. This course deals with theories advanced to explain fluctuations in industrialized capitalistic economies. Certain standard models of the business cycle are introduced, and the various cycle theories are surveyed. (Half course.)

This course is no longer offered. See Economics 453.

Economics 443. Comparative Economics

Prerequisite: Economics 221. This course deals with major economic systems in their cultural, political, and social settings. After a brief anthropological and historical treatment of past systems such as that of primitive society, feudalism, mercantilism, etc., an inquiry into the philosophies and nature of capitalism, socialism, communism, fascism, the welfare state, etc., will be conducted. Some special cases will be treated separately, e.g. those of India, China, etc. (Full course.)

This course is no longer offered. See Economics 444 and 445.

701 - Economics 481. Economic Statistics

Prerequisites: Economics 211. The course is an introduction to statistical techniques as applied to economic problems. Special attention is given to index-number construction, time-series analysis, and elementary correlation and sampling. Attention is also paid to source materials, especially for Canadian statistics. (Full course.)

This course is no longer offered.

Honours in Economics

Attention is called to the statement on honours on page 96.

Major in Economics**Major in Economics and History****Major in Economics and Mathematics****Major in Economics and Political Science**

Attention is called to the statement on majors on page 100.

EDUCATION

702 - Education 211. History of Education

An interpretation of history through analysis of major educational theories and practices in Western Society. (Full course.)

702 - Education 221. Adult Education

This course is intended for all who are interested in adult education, whether professionally concerned with it or not. The history, organization, philosophy, and problems of adult education both formal and informal will be discussed with particular emphasis upon the current developments in Canada. (Half course.)

702 - Education 231. Education in Canada

Federal and provincial organization and administration; primary consideration given to the historical development of Quebec's public school system. (Half course.)

702 - Education 411. Philosophy of Education

Relationship of philosophical concepts and orientations to educational practices. (Full course.)

See also: Psychology 223, - Educational Psychology, and Religion 222, - Religious Education.

GEOGRAPHY

Harry A. Clinch, *Associate Professor of Geography, and Chairman of the Department.*

Brian Slack, *Lecturer in Geography.*

703 - Geography 211. Introduction to Human Geography

Considers the earth as the home of man. A general introduction to geography, which is intended to encourage an appreciation of the relationship existing between physical and cultural distributions over the earth's surface. This course will be concerned with man-land relationships. The broad global patterns of climate, vegetation, relief, soils, and natural resources will be reviewed. The use of maps, charts, diagrams, on the part of the students will be encouraged. Area studies will be introduced from time to time to illustrate the role of geography. Each student will be responsible for a term paper describing, accounting for, and explaining the distribution of population within some given area. (Full course.)

703 - Geography 231. Elements of Weather and Climate

Prerequisite: Geography 211 or 251. A study of weather and climate from a climatological point of view rather than that of a meteorologist. The chief climatic controls and climatic elements—air temperature, atmospheric pressure and winds, moisture and precipitation, storms and associated weather types. A study of the Koppen and Thornthwaite climatic systems and a study of the effect of climate upon plants, animals and man. (Half course.)

703 - Geography 232. Geomorphology

A study of physical (non-climatic) geography including tectonic distributions, erosion, geomorphology, landforms, pedology, etc. This course is intended for Natural Science students. Half of the course time is devoted to laboratory work. (Half course.)

703 - Geography 251. Economic Geography

This course deals with the way in which geographic conditions influence, and have influenced, the products, the occupations, and the ways of life of the various peoples of the world, and provides an understanding of the natural resources of the world, and the geographical factors which affect their exploitation, transportation and use in the satisfaction of wants. (Full course.)

703 - Geography 261. General Cartography

A general study of the map as the tool of the geographer. The course will include a history of cartographic development from the earliest times to the present. Emphasis will be placed on map scale; map projection; map symbolism and upon map reading and usage. The use and interpretation of ground and air surveys and such cartographic specialities as diagrams, statistical maps, cartograms, globes and models will also be emphasized. Students will be expected to learn to read maps and diagrams of special scientific nature such as those dealing with landslope, land use, geology, meteorology, climatology, oceanography, seismology, archaeology as well as all those related directly to the field of geography. The present day state of world mapping and the chief sources of map issuance will also be noted. Exercises and assignments of a practical nature involving the construction of maps will be expected from all students enrolled. (Full course.)

703 - Geography 411. Historical and Political Geography of Europe

Prerequisite: Geography 211 or History 213. An historical and political survey of Europe with emphasis on the development of Western European nations from the earliest time to the present. In the modern period emphasis will be placed on the geography of current events and geopolitics. (Full course.)

703 - Geography 412. World Political Geography

Prerequisites: Geography 211, 251; or 411. A basic study of the principles of political geography or "geopolitics". (Full course.)

703 - Geography 421. Historical and Political Geography of the United States

A survey of exploration, colonization and settlement patterns in the United States. Sectional and regional divisions within the United States, their expression in the internal politics of the United States, and the geopolitical position of the United States in the modern world will be examined. (Full course.)

703 - Geography 431. Urban Geography

Prerequisites: Geography 211 or 251; 411. A study of the prehistoric town, the Greek and Roman town, towns in the Middle Ages, the trading city, the pioneer town and the modern metropolis. The distribution of such towns, their development, growth and internal pattern of organization will be looked at from an historical and geographical point of view. Problems of conurbations and large metropolitan cities in the present age will be discussed and evaluated. Special emphasis will be given to Canadian cities, to their site, function, organization, growth and development as well as to urban problems relating to zoning, transportation, urban renewal, etc. (Full course.)

703 - Geography 432. World Frontiers of Settlement

Prerequisites: Geography 211, 251. A study of areas of the world where active settlement is being, or might be carried out. (Half course.)

703 - Geography 433. Canadian Frontiers of Settlement

Prerequisites: Geography 211, 251, 432, 441. A detailed study of the present day pioneer areas of Canada. (Half course.)

703 - Geography 441. Geography of Canada, Past and Present

A study of Canada, past and present based on the various natural regions into which the country is divided. In the first half of the course an historical-geographic approach will be taken to bring to the student's attention the main trends in Canadian cultural and historical development from aboriginal times to the present. The changing nature of man-land relationships at different periods of time, and under different forms of occupancy will receive particular attention. In the second half of the course the present day pattern of human occupancy on a regional and national basis will be analyzed. Special studies on regional problems and on particular economic, social, or political lines of general interest will be included in the course. All students will be expected to complete a term paper for credit. (Full course.)

NOTE:—Students who have credit for Geography 241 may not take this course for credit.

703 - Geography 451. Prehistoric Geography of Europe and the Mediterranean

Prerequisite: Geography 211 or History 211. A study of the changing physical and climatic pattern of Europe and the Mediterranean area in the light of the present day geographical knowledge with some attempt to assess the importance of this upon the evolution, migration, and patterns of occupancy and distribution of prehistoric man. Special attention will be given to the distribution of archaeological fields, corridors of migration, ethnological distributions, language patterns and the changing patterns of culture. (Half course.)

703 - Geography 461. History of Geographical Thought

Prerequisites: Geography 211 and one additional credit in Geography. A study of the development of the field of geography from ancient times down to the present. Representative geographical works of the Greeks, the Romans, and of the Middle Ages. The Age of Discovery, the 19th and the 20th centuries will be examined and discussed. The present day concepts of the field and function of geography will receive special attention. (Half course.)

703 - Geography 471. Plant and Animal Geography

Prerequisites: Geography 211, or 231 and 232, or 251. A study of past distribution and dispersal of plants and animals with emphasis upon their present pattern of geographic distribution. (Full course.)

703 - Geography 242. World Political Geography

Prerequisite: Geography 211. A basic study of the principles of political geography. In the first term: the field of political geography; the development of geopolitical thought—space, population, resources; the nature of the state and the concept of national, regional and international organization and relationships and alignments. In the second term: the communist bloc, the Atlantic Basin States, the Mediterranean African world, the Pacific and South Asia neutral states, will be studied as basic units; and the changing character of geopolitical patterns and concepts will be charted and evaluated. (Full course.)

This course is no longer offered.

Major in Geography

Attention is called to the statement on majors on page 100.

704 - History 210. History of Early Civilization

Edward Eastman McCullough, *Professor of History, and Chairman of the Department.*

Martin D. Lewis, *Associate Professor of History.*

Stephen J. Scheinberg, *Assistant Professor of History.*

Walter J. Ausserleitner, *Lecturer in History.*

Donald E. Ayre, *Lecturer in History.*

400 level courses should only be attempted by those who have had one or more courses at the introductory level.

704 - History 211. History of Early Civilization

The story of early mankind is outlined so far as it is known at present, and the origins of the great civilizations of today in Europe and Asia are studied. The survey concludes with a study of the classical civilizations in Greece and Rome, India and China with emphasis on their contributions to later times. (Full course.)

704 - History 212. History of Medieval Civilization

A survey of civilization from the beginning of the medieval period to the end of the 17th century. Emphasis is placed on the structure of medieval society in Europe and Asia and on the expansion of western civilization into Asia and the New World. (Full course.)

704 - History 213. History of Modern Civilization

A survey of civilization from the beginning of the 18th century to the present day. Emphasis is placed upon the historical background of outstanding elements and problems in the present world political, social, and economic situation, and developments in science, philosophy, and the arts. (Full course.)

704 - History 221. History of Canada Since 1534

A study of the growth of Canada from the age of exploration to the present time. Emphasis is placed on the political, economic and cultural developments which are of significance in the understanding of the problems of to-day. (Full course.)

704 - History 251. History of the United States

This course deals with the growth of the United States from the time of discovery to the present time. The character of the population, the government, and the various voluntary political and labour organizations is studied from an historical point of view. Special attention is paid to the development of foreign policy and to the present position of the country in world affairs. (Full course.)

NOTE:—Students who have credit for History 451 may not take this course for credit.

704 - History 261. Asia, Africa and the West

Prerequisite: History 213. A survey of the history of Asia and Africa in modern times, stressing the interaction between the indigenous civilizations of these continents and that of the West, and the inter-relationships between developments in Eastern and Southern Asia, the Middle East, and Africa. (Full course.)

NOTE:—Students who have credit for History 461 or 462 may not take this course for credit.

704 - History 413. History of European Diplomacy, 1870-1939

Prerequisite: History 213 or Political Science 421. This course is a study of the events leading up to the first World War, of the diplomacy of the war itself, and of the truce which culminated in the second outbreak in 1939. (Half course.)

704 - History 414. History of the Renaissance

Prerequisite: History 212. A study of world history in the period of the European Renaissance 1450-1700. (Full course.)

704 - History 415. The Rise of Science and Industry

Prerequisite: History 213. A study of the origins and course of the scientific and industrial revolutions. (Full course.)

704 - History 416. The Age of Nationalism, 1789 to the Present

Prerequisite: History 213. An intensive study of the internal development and external relations of the national states since the French Revolution. (Full course.)

704 - History 422. History of French Canada, 1534-1760

An intensive study of Canada during the colonial regime. It will be of benefit to students if they have completed French 211 before taking this course. (Full course.)

NOTE:—Students who have credit for History 222 may not take this course for credit.

704 - History 423. History of British America, 1760-1867

Prerequisite: History 221 or 422. An intensive study of Canada from conquest to confederation. (Full course.)

704 - History 424. History of Canada Since 1867

Prerequisite: History 422 or 423. An intensive study of the political, economic and cultural development of Canada since Confederation. (Full course.)

704 - History 425. Reading Course in Canadian History

Prerequisite: History 472 previously or concurrently. Prescribed readings in a period of Canadian History. No lectures; consultation only. (Half course.)

704 - History 431. History of Britain, 1485 to the Present

Prerequisite: History 212 or 213. A survey of the political, economic, and social development of modern England. Emphasis is placed on the evolution of parliamentary government in the early period, on the economic changes of the eighteenth and nineteenth centuries, and on the modern growth of democracy and the social service state. (Full course.)

NOTE:—Students who have credit for History 231 may not take this course for credit.

704 - History 432. History of the British Empire and Commonwealth

The development of the Empire and Commonwealth is surveyed from the American Revolution to the present time. Emphasis is placed upon the history of the various units of the Commonwealth, as well as upon the development of the dependent empire and its partial emancipation. An attempt is made to understand the position of the Commonwealth of Nations in the world to-day, and its probable role in the future. (Half course.)

704 - History 433. Reading Course in British Foreign Policy

Prerequisite: History 472 previously or concurrently. Prescribed readings in a period of British History. No lectures; consultation only. (Half course.)

704 - History 441. History of Russia

Prerequisite: History 213. This course traces the origin of the Slavic speaking peoples in Europe and the emergence of the Russian Empire. It discusses the ideology and history of bolshevism, and the period under communist government in the U.S.S.R. and among the Slavic peoples. (Half course.)

704 - History 452. History of the Latin American Republics

This course deals with the political, social, and economic history of Mexico and the countries of South America since independence. The development of each is studied, with special reference to their interdependence. The growth of Inter-Americanism is traced, and attention is given to the place of Latin America in the modern world. (Full course.)

704 - History 453. History of Colonial America

A comparative survey of the Spanish and English empires in America from the age of exploration to the end of the colonial regimes. Political, social and economic developments will be studied in their relation with those of the other colonies and with the later growth of the societies concerned. (Full course.)

704 - History 454. Inter-American Relations: Canada and the United States

Prerequisite: History 221 or 251 or 451. A study of the political, economic, and cultural relations of Canada and the United States between the American Revolution and the present time. (Half course.)

704 - History 455. Foreign Relations of the United States

Prerequisite: History 213 or 251 or 451. A study of United States foreign policy from the revolution to the present time, with emphasis on the period since 1890. (Half course.)

704 - History 456. History of the United States Since 1900

Prerequisite: History 251 or 451. This course deals with domestic developments in the United States in the twentieth century, including politics, intellectual life, industry and labour. (Half course.)

704 - History 461. History of India

This is a study of the origin and development of India and Pakistan. The historical background will be traced from the dawn of civilization in India, but the emphasis will be on the period since 1919. Particular attention will be paid to the life of Gandhi and the writings of Nehru. (Half course.)

704 - History 462. History of China

This course surveys the development of China since the dawn of civilization, with special emphasis on the period since 1890. Particular attention is paid to the invasion of China by the western powers, and to Chinese reaction to this development. (Half course.)

704 - History 471. Historians, Past and Present

Prerequisites: History 472, and permission of the instructor. This course surveys the development of historical writing from ancient times to the present, with special emphasis on the various modern schools of historical philosophy and on the growth of criticism. (Full course.)

704 - History 472. Historiography

Prerequisite: At least 2 credits in History, and permission of the instructor. A course in the application of modern historical criticism to a specific problem to be chosen in consultation with the instructor. (Full course.)

704 - History 481. History of Africa

A survey of the early history of Africa followed by a more intensive study of the past century. Special emphasis is given to the changes in Africa resulting from contact with European civilization. (Full course.)

704 - History 451. History of the United States Since 1763

Prerequisite: History 213. This course deals with the growth of the United States from the revolutionary period to the present time. The character of the population, the government, and the various voluntary political and labour organizations is studied from an historical point of view. Special attention is paid to the development of foreign policy and to the present position of the country in world affairs. (Full course.)

This course is no longer offered.

Honours in History

Attention is called to the statement on honours on page 96.

Major in History**Major in Economics and History**

Attention is called to the statement on majors on page 100.

POLITICAL SCIENCE

Herbert Furlong Quinn, *Professor of Political Science, and Chairman of the Department.*

Harold M. Angell, *Assistant Professor of Political Science.*

Robert Alexander Fraser, *Assistant Professor of Political Science.*

705 - Political Science 211. Introduction to Political Science

A study of the origin and nature of the State, and the relation of the individual to it. The course will deal with the nature and interpretation of law, constitutions, division of powers of government, organization of political parties, formation of public opinion, the function of parliaments, the different types of cabinet and presidential systems, federalism, and problems of public administration. (Full course.)

705 - Political Science 221. Structure and Function of the United Nations

The purpose of this course is to provide the student with a working knowledge of the underlying philosophy and basic principles of the United Nations Organization as well as the nature and function of the various agencies of which it is composed. The student will become acquainted with the role of the General Assembly, the Security Council, Trusteeship Council, Economic and Social Council and other bodies set up for the purpose of fostering international peace and co-operation. (Half course.)

705 - Political Science 251. Government and Politics of Canada

A study of the British North America Act and its judicial interpretation; the nature of Canadian federalism; the parliamentary system; nature and organization of political parties; provincial and municipal governments; law and the courts; foreign policy. (Full course.)

705 - Political Science 291. Elements of Law

This course is designed to provide students with an elementary knowledge of those institutions and problems of law with which they may reasonably be expected as citizens to have some understanding and appreciation. As a background to this study the meaning of law and its various divisions will be treated with a view to relating the legal order to present day problems of society. Topics will include the organization and functioning of the Federal and Provincial court systems including the appointment and selection of the Judiciary; the various stages in a lawsuit; a brief consideration of the Quebec civil law as it affects questions of marriage and the more common contracts such as sale, lease and partnership. (Full course.)

705 - Political Science 411. Political Parties

Prerequisite: Political Science 211. A study of the history, ideology, organization and electoral geography of political parties in the United States, England, France, Germany, and some of the smaller countries in Western Europe. The course will also deal with the different types of party systems, the nature and function of parties in the democratic process, the nature of political elites, pressure groups, the organization of elections, and political propaganda. Lectures, discussions and term paper. (Full course.)

Textbook: Neumann, *Modern Political Parties.*

705 - Political Science 412. Governments of France and Germany

Prerequisite: Political Science 211 or History 213. This course emphasizes the legislative, executive, judicial, and party systems of the Fourth and Fifth Republics in France, and the Federal Republic of Western Germany. Some attention is given to governmental systems of these countries prior to World War II, and to the political institutions of Eastern Germany. (Full course.)

705 - Political Science 413. Government of Russia

Prerequisite: Political Science 211 or History 213. A study of the Russian system of government including legislative, executive, and judicial branches; the role of bureaucracy; the Communist Party. Comparisons with Western systems of government. (Half course.)

705 - Political Science 414. Government of United States

Prerequisite: Political Science 211 or History 251 or History 451. A study of the American Constitution, federalism and the electoral system. (Half course.)

705 - Political Science 421. International Political Relations

Prerequisite: Political Science 211. This course will deal with the following topics: the rise of the Western state-system; nationalism and national sovereignty; imperialism and the balance of power; power politics in war and peace; internationalism and international organizations; international law and international government. Through lectures and class discussions the student will gain some knowledge of the complex pattern of international relations which will serve as a basis for evaluating current events in the modern world in which we live. (Full course.)

705 - Political Science 431. History of Political Theory

Prerequisite: Political Science 211 or Philosophy 211. A critical study and analysis of the great thinkers on the problems of politics; Plato, Aristotle, Machiavelli, Hobbes, Locke, Rousseau, Hegel, Marx, Mill, etc. This course is designed to give a survey of systematic political reasoning from the classical period up to the present time in an endeavour to show the foundations of modern political thought. (Full course.)

Textbook: Sabine, *History of Political Theory.*

705 - Political Science 432. Modern Political Theory

Prerequisites: Political Science 211 or Philosophy 211; Political Science 431. This course will cover political theories of the 19th and 20th centuries, dealing with such ideologies as Conservatism, Liberalism, Socialism and Anarchism. Some attention will also be given to the criticisms of the traditional approach to political theory which is now being made by such theorists as Lasswell, Easton, Weldon and Crick. (Full course.)

705 - Political Science 441. Problems of Public Administration

Prerequisite: Political Science 211. This course deals with the nature and function of the administrative branch of government. The student is introduced to such problems as the proper organization of government departments, the management of government corporations, budgeting, selection and training of personnel, maintenance of morale and discipline, relationship between legislature and administration, relationship between the administration and the public. (Full course.)

Political Science 442. Local Government and Administration

Prerequisites: Political Science 211 and preferably 441. This course is designed to provide a survey of the theory and practice of local government and administration. The student will be introduced to such topics as the organization and powers of units of local government, the administration of municipal services, problems of municipal finance, the government of metropolitan areas, and provincial-municipal relations. While principal emphasis will be placed on the development of local government in Canada, some time will be devoted to a consideration of British and American experience. (Half course.)

This course is no longer offered.

Major in Political Science**Major in Economics and Political Science**

Attention is called to the statement on majors on page 100.

PSYCHOLOGY

Gerald Maurice Mahoney, *Associate Professor of Psychology, and Chairman of the Department.*

Jane Stewart, *Associate Professor of Psychology.*

Joseph Philip Zweig, *Associate Professor of Psychology.*

706 - Psychology 211. A General Study of Mind and Behaviour

The purpose of this course is the development of an adequate understanding of human behaviour and experience. The work includes a study of the sense organs and nervous system, perception, learning, memory, motivation and the basic needs, emotional reactions, personality development, adjustment and integration, abnormal personality, mental abilities and aptitudes, and the application of psychological findings to the problems and activities of everyday life. This course is prerequisite to all other courses in psychology. (Full course.)

NOTE:—For regularly enrolled undergraduates Psychology 211 is a second year subject. Partial students may be admitted in first year.

706 - Psychology 221. Industrial Psychology

Prerequisite: Psychology 211. A specialized course in the application of psychological principles to business and industry. This course will be concerned with general principles of employee testing; the interview and related employment methods; training of industrial employees; work, fatigue, and efficiency. (Half course.)

706 - Psychology 223. Educational Psychology

Prerequisite: Psychology 211. Consideration of psychological evidence bearing upon teaching, learning, and the role of education in personal development. (Half course.)

706 - Psychology 225. Psychology and Crime

Prerequisite: Psychology 211. A specialized course in the application of psychology to problems of legal procedure, crime and punishment. The course includes the study of the psychology of the judge, the jury, the witness, the police and the criminal. Discussion of the social and psychological factors contributing to crime and delinquency, and consideration of the various penal methods also is included. (Half course.)

706 - Psychology 231. Child Development

Prerequisite: Psychology 211. A survey of the growth and development of the child from infancy to maturity. The course will include discussion of physical, mental, and social age norms, the results of experimental, clinical, and psychometric investigations, and the application of scientific findings in the care and training of children. (Full course.)

706 - Psychology 412. Advanced General Psychology

Prerequisite: Psychology 211. This course makes a more detailed study of general, physiological, and individual psychology. The work includes an outline of the history of psychology, the various schools of psychological thought and their historical background, psycho-analysis, and individual differences, normal and abnormal. (Full course.)

706 - Psychology 427. Vocational Guidance

Prerequisite: Psychology 211. A course in the functions and methods of vocational and educational guidance and occupational information; study of the individual through interviews and aptitude tests; counselling regarding vocational and educational plans. Laboratory work involving detailed study of tests for measuring abilities, aptitudes, proficiency, interests, and personality traits, and their vocational significance. Lectures and laboratory. (Full course.)

706 - Psychology 441. Social Psychology

Prerequisite: Psychology 211. A study of the individual in his socio-psychological environment, the cultural and hereditary determinants of behaviour, the uniformities and variations among human beings, sex and race differences as determined by cultural patterns, the social significance of language, social interaction, attitudes, stereotypes, propaganda, race prejudice, public opinion and morale, group dynamics and sociometry. (Full course.)

706 - Psychology 451. Personality and Mental Hygiene

Prerequisite: Psychology 211. The course deals with the nature of personality, the correlation of mental characteristics with physical traits, bodily form and expressive movements, the analysis of intellect, temperament and character, the integration and development of personality and its relation to the patterns of culture, theories of personality, the problem of types, adjustment and resolution of conflict, personality tests, rating scales and inventories. (Full course.)

706 - Psychology 461. Physiological Psychology

Prerequisite: Psychology 211. This course attempts to relate neurophysiology to such psychological problems as learning, attention, and emotion. The topics treated include excitation and conduction in the neuron; synaptic mechanisms; sensory and motor systems; the internal environment; the electrical activity of the brain. Emphasis is given to brain damage studies in animals and man, and the problem of localization of function in the nervous system. (Half course.)

706 - Psychology 462. Comparative Psychology

Prerequisite: Psychology 211, 461 (unless exemption is granted by the instructor.) The comparative method in the study of psychological problems, the evolution of behavior and its mechanism from protozoa to man, discussion of tropisms, reflexes, instincts, needs, sensory capacities, learning, thinking, feeling, and some apparently mysterious powers of animals and man. (Half course.)

706 - Psychology 471. Experimental Psychology

Prerequisite: permission of the department. This course will deal with experimental procedures and related techniques in the study of perception, learning, motivation and thinking. Emphasis will be placed on critical analysis of experiments and the evaluation of theoretical ideas in the light of their results. Students will be required to prepare reports of the literature on specific topics, and to arrange and conduct demonstration experiments. Lectures and laboratory. (Full course.)

Major in Psychology

Attention is called to the statement on majors on page 100.

SOCIOLOGY AND ANTHROPOLOGY

Harold Herbert Potter, *Professor of Sociology, and Chairman of the Department.*

Hubert Guindon, *Associate Professor of Sociology.*

Kurt Jonassohn, *Assistant Professor of Sociology.*

Special Summer Session in Sociology

Lewis A. Coser, *Visiting Professor of Sociology.*

Rose Laub Coser, *Visiting Professor of Sociology.*

Joseph H. Fichter, S.J., *Visiting Professor of Sociology.*

Robin M. Williams, Jr., *Visiting Professor of Sociology.*

SOCIOLOGY**707 - Sociology 211. Introduction to Sociology**

The social function of sentiment and custom is discussed. Studies of custom by social science experts are described. Research materials relating to Canada are introduced. Concepts of role, status, personality, and social structure are carefully examined. A special concern is that students should find it possible to relate what they learn in this course to intimate aspects of their own lives, and to the various types of group life with which they are acquainted. (Full course.)

707 - Sociology 221. Social Change

Prerequisite: Sociology 211. Theories of social change found in the works of leading nineteenth and twentieth century writers are examined. The facts of social change in different parts of the world, as presented in current research, are used to test the adequacy of theory. A survey is made of the remedial measures developed to correct conditions of individual and group maladjustment. (Half course.)

Textbook: C. W. Mills, *White Collar.*

707 - Sociology 222. Crime

Theories about criminal behaviour; comparative studies; white collar crimes; relationship between social organization, culture and crime. (Half course.)

707 - Sociology 238. The Social Origins of Law

The development of law through habit and custom. The integrative role of law in relation to specific situations in preliterate societies, especially with respect to blood-feud, bride-price, and the priest-king relationship. The religious origins of ancient law, including Hebrew, Greek and Roman law and their influence on our current legal system. (Half course.)

Textbooks: W. G. Sumner, *Folkways.*

F. de Coulanges, *The Ancient City.*

707 - Sociology 243. Industrial Sociology

Prerequisite: Sociology 211. This course presents a sociological approach to the study of work in modern industrialized society. It deals with occupations and professions, some characteristics of the labour force and the labour market, and an analysis of social interaction and its effects in occupational groups and work groups. (Full course.)

707 - Sociology 251. The Social Origins of Canadian Law

Movements which developed English law from Magna Carta to the Canadian Bill of Rights. Development of principles governing personal freedom and the rights of individuals in Canada, as seen by a study of the judicial trial process, including the examination of legal principles such as innocent until proved guilty and benefit of the doubt. Principles and origins of the criminal law trial system; social causes of anti-social behaviour. (Half course.)

Textbooks: R.C.M.P., *Law and Order in Canadian Democracy.*

Parliamentary Report on Capital Punishment.

707 - Sociology 411. Techniques in Sociology

Prerequisites: Sociology 211, Social Science 241. This course deals with the design of research, the methods of data collection, and the techniques of analysis. A research project will be designed and carried out by the students. The emphasis will be on training for the critical reading of published research materials, as well as on training for graduate study. Lectures and laboratory. (Full course.)

Textbook: Riley, *Sociological Research.*

707 - Sociology 422. Social Movements and Institutions

Prerequisite: Sociology 211. The nature and functions of social movements in general are studied. Specific cases include political, racial, and religious movements. The second half of the course deals with the nature and functions of institutions and the character of bureaucracy. (Full course.)

Textbook: A. McLung Lee, *New Outline of the Principles of Sociology.*

707 - Sociology 424. Sociological Theory

Prerequisite: Sociology 211. Students will be introduced to the major sociological theorists beginning with Auguste Comte and Herbert Spencer. Though due weight will be given to those theories which have had historical importance, the main emphasis will be on theories whose contributions are of major importance for contemporary sociological research and theory. The work of Durkheim, Weber, Simmel, Parsons, Merton, and Coser will be discussed in detail. (Full course.)

NOTE:—This course will also be given in the Special Summer Session in Sociology, 1964.

Visiting Professor: Lewis A. Coser.

Brandeis University.

707 Sociology 431. Medical Sociology (Special Summer Session 1964)

This course will deal with the social and cultural matrix of illness and health, some psycho-social processes in illness, the role of the patient and the role of the physician in modern society, the therapeutic relationship, and the function and structure of the modern hospital. (Full course.)

Visiting Professor: Rose Laub Coser
Harvard Medical School and
Boston University.

707 - Sociology 432. Religious Institutions (Special Summer Session 1964)

In this academic course of lectures, religion is viewed as an institutionalized expression of the culture. The interpretation of the religious phenomenon is sociological, and not historical, philosophical, or theological. The focus is contemporary for the most part, and mainly on the American and Western scene. (Full course.)

Visiting Professor: Joseph H. Fichter, S.J.
Loyola University of the South

707 - Sociology 441. The Modern Community

Prerequisite: Sociology 211. The physical and social characteristics of urban communities are studied with special attention paid to ecological patterns and ecological processes. Forms of adjustment, co-operation and control are included in these studies. (Half course.)

Textbook: N. P. Gist and L. A. Halbert, *Urban Society*.

707 - Sociology 442. The Family

Anthropological studies of family structure and family operations; stipulations in Quebec law; the relationship between family structure and functions, and social conditions in the larger community; problems normally to be expected in marriage and family life; studies of marital happiness; the possibility of sexual maladjustment. This course is designed to guide students who may go on to graduate study, as well as students whose main objective is preparation for marriage. (Half course.)

707 - Sociology 443. Intergroup Relations

Prerequisite: Sociology 211. Concepts of race, ethnicity, racial prejudice are examined. Intergroup problems; the marginal man; the selective nature of migration. Studies of specific intergroup situations may include African and South Pacific regions, as well as Germany, the United Kingdom, the Americas. (Half course.)

Textbook: B. Berry, *Race and Ethnic Relations*.

707 - Sociology 444. Caste and Class Studies

Prerequisite: Sociology 211. This course deals with caste and class divisions in ancient and modern societies, caste in 19th and 20th century India, class division in the Soviet Union, and studies of social mobility. (Full course.)

707 - Sociology 445. American Minorities (Special Summer Session 1964)

Description of major North American minorities, and analysis of their inter-relations. Segregation, discrimination, and prejudice will be analyzed for their sociological and psychological causes and effects. Social and political movements based on efforts to change existing relations, or to resist such change, will be examined, with special reference to Negroes in the United States. (Half course.)

Visiting Professor: Robin M. Williams, Jr.
Cornell University

707 - Sociology 446. Race Relations (Special Summer Session 1964)

An analysis of basic processes and structures involved in social categorization of individuals. Primary attention will center upon collectivities based upon ethnic, religious, and 'racial' categories, but consideration will be given also to groupings connected with age, sex, occupation, residence, class, and other attributional categories. Consensus and interdependence will be analyzed along with alienation and conflict. (Half course.)

Visiting Professor: Robin M. Williams, Jr.
Cornell University

707 - Sociology 461. Demography

Prerequisite: Sociology 211 or Economics 211 or Geography 211 or 441. This course consists of a brief survey of population theory and an introduction to the techniques of population analysis. It will cover the size, distribution, and composition of the population; changes in these characteristics; the relationship between population trends and social and economic conditions, with special reference to recent trends. (Half course.)

Textbooks: G. W. Barclay, *Techniques of Population Analysis*.
United Nations, *The Determinants and Consequences of Population Trends*.

707 - Sociology 471. Special Seminar

Prerequisites: Sociology 211, 422, 423. Subject matter will vary from year to year to take advantage of the special interest of the seminar leader. This course will provide opportunities to senior students for discussion and advanced study. (Full course.)

707 - Sociology 231. General Anthropology

The evolution of man and his culture to the historical era; the differentiation of races and the problem of race superiority; general principles of cultural anthropology; the origin and development of social, economic and political institutions; marriage, the family, religion, art, science, and other problems of culture. (Half course.)

This course is no longer offered.

707 - Sociology 232. Anthropology—The American Indian

Prerequisite: Sociology 231. The principles of general anthropology applied in a survey course on the American Indians. The advent of man to America; early cultural developments and the differentiation of the various groups or tribes; the culture of the Mayas, Toltecs, Aztecs, Pueblos, Iroquois, Eskimos, Northwest coast tribes, Andean, and other early civilizations of North and South America; the cultural contributions of the Indian to the white man's civilization. (Half course.)

This course is no longer offered.

707 - Sociology 423. Classics in Sociological Thought

Prerequisite: Sociology 211. Selected works of eminent authors are read, rather than read about. Critical discussion is essential. Students thus become familiar with some of the tested work of the best minds dealing with sociological problems. Students preferred are those with at least two previous credits in sociology. (Full course.)

This course is no longer offered.

Major in Sociology

Attention is called to the statement on majors on page 100.

ANTHROPOLOGY**707 - Anthropology 211. Introduction to Anthropology**

This course deals with the evolution of man and his culture during prehistory, the differentiation of races, family and kinship structures in simple and complex societies, and the religious beliefs and practices of ancient and modern primitives in selected parts of the world. (Full course.)

NOTE:—Only one full credit will be given students who pass Anthropology 211 and Sociology 231.

707 - Anthropology 411. The American Indian

Prerequisite: Anthropology 211 or Sociology 231. The principles of general anthropology applied in a survey course on the American Indians. The advent of man to America; early cultural developments and the differentiation of the various groups or tribes; the culture of the Mayas, Toltecs, Aztecs, Pueblos, Iroquois, Eskimos, Northwest coast tribes, Andean, and other early civilizations of North and South America; the cultural contributions of the Indian to the white man's civilization. (Half course.)

NOTE:—Students who have credit for Sociology 232 may not take this course for credit.

707 - Anthropology 421. African Peoples

Prerequisite: Anthropology 211 or Sociology 231. This course deals with family and kinship structures of selected regions; native political organizations, political organization during colonial periods; religious beliefs and practices. (Full course.)

APPLIED SOCIAL SCIENCE

Hedley G. Dimock, *Assistant Professor of Applied Social Science, and Chairman of the Department.*

Henry Foss Hall, *Professor of Natural Science.*

A. Douglas Insleay, *Lecturer in Applied Social Science.*

R. C. Rae, *Lecturer in Applied Social Science.*

J. Alexander Sproule, *Lecturer in Applied Social Science.*

708 - Applied Social Science 211. History, Philosophy, and Organization of the Young Men's Christian Association

The origin and development of the YMCA organization on national, international and world-wide scales; institutional patterns and methods of work; the significance of purpose and aims; Christian emphasis in the YMCA. (Half course.)

708 - Applied Social Science 221. Administration of YMCA and Similar Agencies

The development of the administrative process and the principles and methods of administration and organization in the YMCA and similar agencies; specific areas of administration analysed including personnel, financing, maintenance, public relations, personal efficiency and adequate recording processes. (Half course.)

708 - Applied Social Science 231. Programme Materials and Methods

A course involving some of the specific physical education methods, principles and skills required for leadership in group serving agencies. The course includes lectures and gym sessions and covers principles, programme planning, tournaments, games and skills, visual aids, etc. (Half course.)

708 - Applied Social Science 241. Camp Leadership and Programme Administration

Prerequisite: previous experience on the staff of a summer camp for a minimum of one summer, or permission of the department. An analysis of the use of the camp setting, programme methods and group experiences in achieving educational goals with children and youth. Consideration of the employment, development and morale of camp staff. Discussion of the effects of various practices on the adjustment and growth of campers. (Half course.)

708 - Applied Social Science 251. Understanding Group Behaviour

Prerequisite: first year students may not register for this course. This is a laboratory course which includes participating in a group and analyzing such common group dynamics as leadership communication, decision making, member roles and sensitivity to others. (Half course.)

708 - Applied Social Science 431. Group Development and Supervision of Programme Leaders

Orientation to systematic group development in Community Serving Organizations. Development of understanding and skill of group procedures in settings including boards, committees, program groups, classes, and special interest groups. Each student will study the growth and development of an agency group. Recruitment, selection, in-service training, supervision and evaluation of program leaders. First year students may not register for this course. (Full course.)

708 - Applied Social Science 441. Community Leadership

Prerequisite: Sociology 211. The roll of professional staff of Community Serving Agencies in working within a community; relationships between voluntary and public social agencies within the community; assessing the community and defining its needs. (Half course.)

708 - Applied Social Science 451. Principles and Practices of Guidance

Prerequisite: Psychology 211 or Sociology 211. Principles and methods of counselling and guidance with particular reference to their application in the setting of the Community Serving Organizations. Organization and administration of a guidance service including measurement and appraisal, techniques of counselling, occupational and educational information, and referral, will be considered. (Half course.)

708 - Applied Social Science 461. Social Welfare

A general course concerned with social welfare problems in modern society. Some analysis of these problems in relation to economic trends and cultural patterns. A description of the public and private agencies that have been established to provide social welfare services to meet the needs that arise in society. Course open to 3rd or 4th year students only or by permission of the department chairman. (Half course.)

708 - Applied Social Science 462. The Social Welfare Services

Prerequisite: Applied Social Science 461. A description of the functional settings in which social welfare services are practised. A consideration of the different divisions of social work services, i.e., case work, group work, community organization, administration and research. The use of case materials to illustrate the type of problems dealt with in these divisions. Some consideration of the connective links between social welfare services and religion, law, medicine, nursing, teaching and other callings. Course open to 3rd and 4th year students or by permission of the department chairman. (Half course.)

708 - Applied Social Science 471. Projects Seminar

Prerequisite: open to all 4th year majors in Applied Social Science with permission of the department. A seminar course for field projects, surveys and research studies undertaken by each student. (Full course.)

Major in Social Welfare

Attention is called to the statement on majors on page 100.

Faculty of Commerce

FACULTY OF COMMERCE

Lewis Nial Greer, *Dean*

ACCOUNTANCY

James Gilchrist Finnie, *Professor of Accountancy, and Chairman of the Department.*
 Harvey Mann, *Assistant Professor of Accountancy.*
 Donald William Burke, *Lecturer in Accountancy.*
 E. Brian Markland, *Lecturer in Accountancy.*

800 - Accountancy 211. Accounting (Introductory)

This introductory course in accounting presents the fundamental principles and emphasizes the application of those principles through modern procedure. It includes: recording of debits and credits and the application of the theory of double-entry in ledger accounts with assets, liabilities, owners' equity, income and expense accounts; journalizing, posting, use of special books of original entry, columnar journals, voucher register, notes registers, and controlling accounts; accounting for servicing, trading, and manufacturing establishments; posting to general and subsidiary ledgers; preparation of working papers, adjusting and closing entries; locating errors; preparation and classification of manufacturing, trading and profit and loss statements, surplus statement, and balance sheet; forms of organization and accounting procedure for proprietorship; reconciliation of bank accounts; (Full course with practice.)

Textbook: Finney & Miller, 5th Ed. (Can.Ed.), *Principles of Accounting (Introductory).*

800 - Accountancy 411. Accounting (Intermediate)

Prerequisite: Accountancy 211. This course is designed to provide increased facility in the application of accounting principles to the more complex phases of commercial activity, with emphasis on analytic methods and interpretative processes, and relates particularly to the procedure of accounting for manufacturing establishments. It includes: single-entry, capital reconciliation and conversion to double-entry; partnership organization, admissions, retirements, dissolution and conversion to limited company; limited-company organization, capital structure; bonds, sinking funds and reserves; methods of depreciation and disposal of fixed assets; preparation, analysis, and interpretation of financial statements; source and application of funds; introduction to price-level impact on financial statements. Application of the Dominion and Provincial Companies Acts in relation to the procedure of accounting, and in the preparation of financial statements is also covered. (Full course with practice.)

Textbook: Finney & Miller, 5th Ed. (Can.Ed.), *Principles of Accounting (Intermediate).*

800 - Accountancy 412. Accounting (Advanced)

Prerequisite: Accountancy 411. This is an advanced course in the principles of partnership formation, valuation, dissolution and liquidation; joint venture, consignments, installment sales, and insurance; bankruptcy, trusteeship, receivership and estates; preparation of statement of affairs, realization and liquidation reports; agency and branch accounting; parent and subsidiary accounting, including consolidations; foreign exchange; public accounts dealing with governments and institutions, indicating the sources and classification of fund accounts; general fund, revenue fund, stores fund, bond fund, sinking fund, trust fund, special assessment fund. (Full course with practice.)

NOTE:—This course may not be taken concurrently with Accountancy 421 or 422.

Textbook: Finney & Miller, 5th Ed., *Principles of Accounting (Advanced).*

800 - Accountancy 421. Cost Accounting (Introductory)

Prerequisite: Accountancy 411. This course provides a knowledge of the fundamentals of cost accounting; the essential records; and methods of arriving at cost, including the following: purposes of cost accounting; elements of cost; process cost systems; job cost systems; controlling accounts and the cost records; accounting for materials; material storage and consumption; perpetual inventories and stores control; valuation of materials; accounting for labour cost; wage systems; accounting for manufacturing expense; distribution of manufacturing expense to production; the cost to make and sell; sundry forms; monthly closing entries; preparation of operation and financial statements; and cost reports. A brief introduction to estimating and standard cost systems is also provided; both of which are more thoroughly handled in Accountancy 422. This course is operated in co-operation with the Society of Industrial and Cost Accountants of Quebec. (Half course.)

NOTE:—This course may not be taken concurrently with Accountancy 412.

800 - Accountancy 422. Cost Accounting (Advanced)

Prerequisite: Accountancy 421. This course provides advanced and detailed knowledge of cost problems, records and practices, and cost accounting in relation to inventories, standard costs, budgetary control, and other devices of the various departments of a business, including the following: estimating cost systems; principles of standard costs, current and basic standards, variances, cost ratios, budgetary control; variable budgets; differential cost analyses; defective and spoiled work; by-products; idle and non-productive time; weighted averages; interest on investment; uniform cost methods; distribution and marketing costs; machine accounting; statistical and graphical cost reports; current cost accounting developments; statements; actual working out a practice job cost system. This course is operated in co-operation with The Society of Industrial and Cost Accountants of Quebec. (Half course.)

NOTE:—This course may not be taken concurrently with Accountancy 412.

800 - Accountancy 431. Auditing and Investigation

Prerequisite: Accountancy 411. This course on the principles underlying the practice of auditing, includes the purposes and advantages of an audit, type of audits and examinations, qualifications of an auditor, preparatory considerations, the use of working papers and audit programmes, systems of internal check, the audit of asset, liability, revenue and expense accounts and of business transactions generally, forms of fraud and its detection, the legal duties and responsibilities of auditors, and auditors' reports and certificates: investigation types, procedures and reports. (Full course.)

800 - Accountancy 441. Internal Auditing

Prerequisite: Accountancy 211. Mature partial students with prior experience in this field may be admitted without prerequisite. This course is designed to cover the basic principles of internal auditing, a management control, and the practical application of these principles in safeguarding the assets of an enterprise. It includes a discussion of the organization and operation of an Internal Audit Department, the planning of audit programmes, the techniques, working papers and reports. Other topics discussed will include the Internal Control and Internal Audit of — purchasing and material control; inventory control; sales; receivables; payrolls; payables; accrued and other liabilities; cash receipts and disbursements; fixed and other assets; scrap and by-products; income and expenses; manufacturing costs; ownership equities; branch operations; subsidiary companies; investments; and other regular and special activities. Lectures will be delivered by a group of specialists following a programme developed in co-operation with the Montreal Chapter of the Institute of Internal Auditors. (Half course.)

800 - Accountancy 451. Machine Accounting and Other Machine Applications.

This course is an introduction to the use of automatic and semi-automatic business machines in ledger keeping, billing, payroll, costing, process control, inventory records, report preparation, sales statistics and other applications. Emphasis is placed on the principles of integrated data processing through the use of punched cards, punched tape and magnetic tape. Several of the lectures will be delivered by specialists on specific types of machines. It is desirable to take Administration 221 before attempting this course. This course is operated in co-operation with the Montreal Chapter of the National Machine Accountants Association. (Half course.)

Major in Accountancy

Attention is called to the statement on majors on page 100.

ADMINISTRATION

801 - Administration 211. Business Organization and Industrial Management

Prerequisite: Accountancy 211. This course in organization and management is designed to serve as an introduction to the various phases of business and industry and to provide some vocational orientation in the field of commerce. Topics include origin, growth, and classification of business organizations, types of securities, costing, marketing, advertising, plant location, production control, purchasing, wage systems and labour relations, transportation, managerial interpretation and use of financial statements and statistics, government regulations affecting business. (Full course.)

801 - Administration 221. Office Management

A course in the principles of office management, including such topics as the function of the office in business; organization and principles of control; office systems and routines; office equipment and labour-saving devices; office planning and layouts; selection and training of office personnel; office communications. It is strongly recommended that Administration 211 be taken before attempting this course. This course is offered in co-operation with the National Office Management Association Montreal Chapter Inc. (Half course.)

801 - Administration 251. Production Management

This course is to acquaint the student with the means used by management to control the output of a productive unit; and covers tools of production, including reading of blue prints and use of machine tools; time study and standards; methods study and improvement; wage administration, including job and worker rating and incentive systems; control of manufacturing operations and organization relationships, including production controls of planning, routing and scheduling, waste controls, inspection and quality controls, and standards of procedure and cost controls. It is strongly recommended that Administration 211 be taken before attempting this course. (Half course.)

801 - Administration 431. Personnel Administration

This is a survey course of personnel administration for those presently fulfilling personnel or supervisory responsibilities, and for senior students wishing to obtain a survey of the personnel field.

This course introduces the student to the various phases of the work and deals with such fundamentals as the organization and administration of a personnel department. It also covers personnel forms and records; presentation of statistical data; recruiting, selection, placement; job training; merit rating; job evaluation; wage structure; and force losses. It touches on the industrial relations aspect, and provides an appreciation of the various types of surveys including: morale; employee opinion; and wage surveys. This course is offered in co-operation with the Montreal Personnel Association. (Full course.)

801 - Administration 441. Human Relations in Business

Prerequisite: Psychology 211 or Administration 431. This course is primarily for people who have had supervisory experience. It considers the social structure of an organization and the group dynamics of employee behaviour. It deals with the fundamentals of behaviour, motivation, frustration, attitude, and morale, and their effect on employee efficiency. Role-playing and case-study methods will be used. (Half course.)

801 - Administration 442. Purchasing (Introductory)

Prerequisite: Administration 211. Mature partial students with prior experience in this field, may be admitted without prerequisite. This course is designed to cover the fundamentals of purchasing policies and procedures and the organization and functions of the purchasing department in business and industry. It is of particular interest to individuals not now working in purchasing departments, but who are interested in acquiring knowledge of the subject; and is also for employees of a purchasing department who wish to obtain a well-rounded knowledge of purchasing principles. This course is offered in co-operation with the Purchasing Agents Association of Montreal. (Half course.)

801 - Administration 443. Purchasing (Advanced)

Prerequisite: Administration 442. This course is for students who expect to be, or are engaged in the purchasing department of an enterprise. It deals more intensively with the topics covered in Purchasing 442, and is designed to serve as an opportunity for study and discussion by men who have experience in the field of purchasing. Class discussion and case studies are the basic method of study employed. This course is offered in co-operation with the Purchasing Agents Association of Montreal. (Half course.)

COMMERCIAL LAW

802 - Commercial Law 211. Commercial Law

This course provides a general survey of the law obtaining in the Province of Quebec with special emphasis on the aspects thereof relating to business and commerce. It includes a basic outline of the law of Domicile, Marriage, Persons, Property, Ownership and its modifications, Successions, Gifts and Wills, Testamentary Executors, Trusts, Contracts, Quasi-Contracts, Offences and Quasi-Offences, Privileges, Hypothecs and Prescription, and a more detailed study of the Contracts of Sale, Lease and Hire of Things and of Work, Mandate, Loan, Deposit, Partnership, Suretyship, Pledge, Insurance, and an outline of the basic law applying to Negotiable Instruments, Joint Stock Companies, Bankruptcy and Winding Up, and Copyrights, Patents, and Trade Marks. It is strongly recommended that Accountancy 211 be taken before attempting this course. Taxation is covered in a separate course under Commercial Law 441. (Full course.)

802 - Commercial Law 221. Industrial Legislation

This course is a study of legislation affecting labour and employment and of the industrial and social conditions to which such legislation applies, including: labour contracts; conditions and hours of work; wages; social and industrial legislation, including a review of international industrial law and the work of the International Labour Organization; collective bargaining; minimum wage legislation; labour agreements; unemployment insurance; old age insurance; health insurance; the protection of Canadian labour against low standard immigration by the immigration and alien labour acts; workmen's compensation and unemployment insurance; labour organizations and trade unionism; the right to strike; picketing and other labour activities; employer-employee relations and labour disputes; female and child labour and their employment in dangerous industries; illegal combinations; patents, trade-names, copyrights; unfair competition. Those desiring a more general course in law should take Commercial Law 211. Those wishing more general courses in labour relations should take Industrial Relations 411 and 412. (Full course.)

802 - Commercial Law 431. Company Secretarial Practice

Prerequisites: Accountancy 211, Commercial Law 211. This course covers duties of the secretary of a limited company, including his statutory duties under the companies' acts, books and records to be kept, business problems to be faced, issuance of shares, and payment of dividends, preparation of governmental reports, and meetings of directors and shareholders. This course is offered in co-operation with the Chartered Institute of Secretaries (Quebec Branch). (Half course.)

802 - Commercial Law 441. Taxation

Prerequisite: Accountancy 211. This course is devised to give authentic and up-to-date information on one of the major factors in business today. Discussion of problems is encouraged. Topics covered include corporation and personal income taxes and a survey of sales taxes, estate taxes and succession duties, and other levies. (Half course.)

COMMUNICATION**Communication 211. Commercial Correspondence**

Prerequisite: English 211. Advanced instruction is given in commercial correspondence. Actual practice and constructive criticism are included. Types of letters covered include applications for position, inquiries and orders, adjustments and complaints, collections, and sales. Students are coached in the techniques of dictation, and required to turn in assignments weekly. (Half course.)

This course is no longer offered.

EXECUTIVE TRAINING**804 - Executive Training 211. Supervisory Training**

The course deals with three supervisory skills: 1. Skill in Instructing, essential to convey knowledge possessed, and to delegate work; 2. Skill in Planning and Improving Methods, vital if satisfactory results are to be achieved by both the supervisor and those he guides; and 3. Skill in Leading and Working with People to maintain the co-operation and teamwork of staff. The course is based upon an adaptation of the United States Training-Within-Industry programme which covers Job Instruction Training, Job Methods Training and Job Relations Training, sometimes referred to as the "J" series. Sessions are limited to a group of twelve persons. (Half course.)

804 - Executive Training 421. Analysis of Business Conditions

Prerequisite: for undergraduates, Administration 211 or equivalent. This is a course in the study and interpretation of current business conditions from the point of view of the man in business. The various measures available are thoroughly discussed as well as their sources and interpretation. It is desirable that this course be taken prior to Executive Training 422. (Half course.)

804 - Executive Training 422. Business Planning and Budgeting

Prerequisite: for undergraduates, Administration 211 or equivalent. This course deals with the planning aspect of business administration and indicates how business operations may be planned through the use of a budgeting system. Various measures which may be used to assist in planning and controlling business operations are discussed, including cost-volume profit analysis, break-even points, etc. It is desirable that this course be taken after Executive Training 421. (Half course.)

804 - Executive Training 431. Administration

Prerequisite: Administration 211. This is an advanced seminar course for business executives who wish to bring themselves up to date on the latest developments in the field of administration. In order to qualify for membership in this group candidates must establish that they are members of a recognized professional body, active in the management field, or that they are holders of a recognized commerce degree. Final year undergraduates in Commerce will be admitted. Guest specialists are invited to outline the current position in their specialized field and a thorough discussion of the subject covered then takes place. In order to encourage maximum group participation the number of registrants is limited to about thirty. This course is operated in co-operation with the Institute of Administration. (Half course.)

804 - Executive Training 441. Developing Effective Systems and Procedures

This course is an introduction to the techniques used by systems analysts to develop more effective systems and procedures. Topics covered include: techniques of fact gathering, systems department organization, work simplification, work measurement, flow charting, forms design and control, records management, reproduction and printing processes, systems installation, procedure manual writing. This course is operated in co-operation with The Montreal Chapter, Systems and Procedures Association of America. It is strongly recommended that Administration 211 be taken before attempting this course. (Half course.)

804 - Executive Training 442. Integrated Data Processing

Prerequisite: Executive Training 441. This course is an introduction to integrated data processing using case histories of Canadian companies which have emphasized its use as an instrument of management. The principles, equipment and forms in systems from manual to electronic will be examined. This course is operated in co-operation with The Montreal Chapter, Systems and Procedures Association of America. (Half course.)

FINANCE

805 - Finance 221. Commercial Algebra

This course is designed to provide an adequate algebraic background for the commerce student and the necessary training prerequisite to Finance 231. It includes a review of the elementary algebraic operations of addition, subtraction, multiplication, division, fractions, simple equations, and percentages. It also covers logarithms, ratio, proportion, arithmetic and geometric progressions, theory of quadratics, the binomial theorem, and graphical algebra. (Half course.)

NOTE:—Students contemplating advanced studies in the field of mathematics or commerce should take Mathematics 213 in preference to this course. Students who have not completed high school algebra or who require a refresher course should consider taking Mathematics 201 before this course.

Students who have credit for Mathematics 213, 221 or 222 may not take this course for credit.

805 - Finance 231. Mathematics of Finance

Prerequisites: Mathematics 213 or 221, or Finance 221, or Algebra 55, or Intermediate High School Algebra. This course is an introduction to the theory of interest. It is designed to acquaint the student with those commercial problems involving simple interest; compound interest, annuities (ordinary, deferred, perpetuities and due), amortization and sinking funds, depreciation and bond values. (Half course.)

805 - Finance 251. Credits

This is a practical course covering the subject of credits and designed to help students of the Canadian Credit Institute, and those working in the field of credit, particularly at the wholesale and retail levels. It covers duties and qualifications of a credit man; credit and its place in the business structure; credit instruments; sources of credit information; analysis of the credit risk; credit records; and types of credit. Visits will be made to Credit Departments and agencies. (Half course.)

805 - Finance 252. Collections

This is a practical course covering the subject of collections and designed to help students of the Canadian Credit Institute, and those working in the field of credit, particularly at the wholesale and retail levels. It covers collection follow-up systems; bad debt analysis; credit frauds; locating debtors; collection policies, and laws affecting collections including guarantee and suretyship, sale of goods, interest, limitations of actions with prescription, bankruptcy and insolvency, conditional sales agreements, and repossessions. Visits will be made to Credit Departments and agencies. (Half course.)

805 - Finance 411. Corporation Finance (Introductory)

Prerequisite: Accountancy 211. This is a practical course dealing with the financial management of corporations. A study is made of various classes of stocks and bonds, of stock warrants and rights, of dividend and interest payments, of capital structures and security underwriting. Actual examples taken from Canadian corporation history are used to illustrate various points and well-known financial reference services available in Canada are used in connection with this course. This course is offered in co-operation with the Investment Dealers Association of Canada. (Half course.)

805 - Finance 412. Corporation Finance (Advanced)

Prerequisite: Finance 411. This course is for those who expect to be engaged in finance or in the financial department of a corporation. Students are required to prepare case studies of selected Canadian corporations. Particular attention is paid to the raising of new capital, long term financial planning, working capital control, recapitalizing, refinancing and special problems such as bond interest default, arrears of dividends and forced reorganizations. This course is offered in co-operation with the Investment Dealers Association of Canada. (Half course.)

805 - Finance 421. Investment Analysis (Introductory)

Prerequisite: Accountancy 211. This course covers the theory of investment from the standpoint of objectives of the investor, including such subjects as:—the background of investments; relating the use of investment funds to the capital development of the country; source of investment funds; evaluation of sources of financial information available to investors; study of media of investment; method of analysing corporation earnings statements and balance sheets; study of such investment factors as leverage, diversification, balanced portfolios; and the analyses of risks and returns on investments. This course is operated in co-operation with The Investment Dealers Association of Canada. (Half course)

805 - Finance 422. Investment Analysis (Advanced)

Prerequisite: Finance 421. This course is designed to deal in more detail with a number of the subjects considered briefly in Finance 421. Students will be required to set up a sample investment portfolio, and to complete analyses of specific securities. Investment management and the use of various investment formulae will be discussed. The course is designed more as a working course than a lecture course, and practical investment problems will be used. This course is offered in co-operation with The Investment Dealers Association of Canada. (Half course.)

INDUSTRIAL RELATIONS

806 - Industrial Relations 411. Labour Relations (Introductory)

This is a descriptive course dealing with the main elements in labour relations including company policy and practices, terms of employment, labour legislation, trade unions, and collective agreements. This course is offered in co-operation with the Montreal Personnel Association. (Half course.)

806 - Industrial Relations 412. Labour Relations (Advanced)

Prerequisite: Industrial Relations 411 or equivalent, or a sufficient amount of practical experience in the field of labour relations to be considered the equivalent to both the practical and theoretical part of Industrial Relations 411. This is an analytical course dealing with some of the more important labour relations activities in a company including the development of policy and practice manuals, preparation for collective bargaining, negotiation of agreements, handling of grievances, arbitration, application of labour legislation, and the operation of employee-management committee meetings. This course is offered in co-operation with the Montreal Personnel Association. (Half course.)

806 - Industrial Relations 421. Job Analysis and Evaluation

This course deals with the practical aspects of introducing and operating a Job Analysis and Evaluation system for a representative enterprise. The course is planned to help students prepare a programme suited to the needs of their own firms. (Half course.)

INSURANCE

807 - Insurance 212. Insurance Needs and Planning

This course gives an outline of the various hazards confronting individuals sole proprietors, partnerships, and corporations, and an understanding of the means and methods of eliminating their economic consequences through the use of the medium of insurance. Types of insurance discussed include fire, marine, inland marine, liability, burglary and robbery, automobile, and disability. Life insurance for individuals and businessmen, surveys, and estate analysis are also covered. (Half course.)

Insurance 211. Insurance

After a brief review of the history of insurance this course deals with various types of insurance organizations; the construction, use and characteristics of mortality tables; the calculation of premiums; the principles of reserves, dividends and investments; policy provisions and benefits; plans of insurance and legal aspects of insurance in Canada. The treatment is mainly descriptive and general problems of insurance are discussed. While the emphasis is on life insurance, other types of risk and risk-bearing are dealt with briefly. The treatment is both descriptive and mathematical. Insurance 212 is recommended as a sequel or companion to this course. (Half course.)

This course is no longer offered.

MARKETING

808 - Marketing 211. Marketing (Introductory)

This course is a general survey of marketing, or the distribution of goods from the factory to the ultimate consumer. Marketing functions, institutions, methods and policies are studied from the viewpoint of the business man. Stress is placed on the management problems faced in the distribution field. Topics covered include retailing, wholesaling, merchandising, pricing, selling, sales promotion, marketing research, distribution costs, and general review of legislation affecting marketing. This course is offered in co-operation with Advertising and Sales Executives Club of Montreal. (See Marketing 411 for an advanced course.) (Half course.)

808 - Marketing 221. Advertising (Introductory)

This course explains the basic principles involved in creating advertisements and in carrying out complete advertising campaigns. See also Marketing 222. This course is offered in co-operation with the Advertising and Sales Executives Club of Montreal. (Half course.)

808 - Marketing 222. Advertising (Advanced)

Prerequisite: Marketing 221. Mature students who have an equivalent working knowledge of the theory and practice of advertising may be admitted without prerequisite. This course deals with the tasks that advertising can perform and the problems encountered by executives in the management of advertising. This course is offered in co-operation with the Advertising and Sales Executives Club of Montreal. (Half course.)

808 - Marketing 241. International Trade

The course deals with the fundamental and practical aspects of importing and exporting, covering such subjects as trade terms and definitions, import and export regulations; export credits insurance; customs regulations; handling of export traffic; trading documents; aircargo and air express; marine insurance; financing. Lectures will be delivered by a variety of specialists following a programme developed in co-operation with the International Trade Section of The Montreal Board of Trade. (Half course.)

808 - Marketing 251. Transportation and Traffic (Introductory)

This course in freight traffic management is primarily for students who wish to specialize in this line of endeavour. It covers the practical aspects of transportation in Canada including such matters as bills of lading and shipping procedures; special services of railways; express; claims and claims prevention; and freight classifications. This course is planned in co-operation with the Quebec Division of the Canadian Industrial Traffic League. (Full course.)

808 - Marketing 252. Transportation and Traffic (Advanced)

Prerequisite: Marketing 251. This course in freight traffic management is primarily for students who wish to specialize in this line of endeavour. It covers the practical aspects of transportation in Canada including such matters as tariff construction and freight rate structures; condition of carriage; ocean freight contracts; marine insurance; customs; interpretation of the railway act and railway law. This course is planned in co-operation with the Quebec Division of the Canadian Industrial Traffic League. (Full course.)

808 - Marketing 411. Marketing Policies

Prerequisite: Marketing 211. Mature students who have a working knowledge of marketing methods and practices may be admitted without prerequisite. It deals more intensively with the topics covered in Marketing 211, and emphasizes the formulation and appraisal of marketing policies in the areas of product planning, distribution channel selection, pricing and sales stimulation. Budgeting for marketing and development of integrated marketing programmes is also stressed. Class discussion and analysis of marketing case histories are the basic methods of study employed. This course is operated in co-operation with the Advertising and Sales Executives Club of Montreal. (Half course.)

808 - Marketing 412. Marketing Research

Prerequisites: Marketing 211, 411. Mature students who have a working knowledge of marketing methods and practices may be admitted without prerequisite. This course is primarily designed to acquaint the student with the many applications of modern marketing research to merchandising, sales advertising, pricing, and promotion problems. Marketing research procedures and techniques are reviewed and special emphasis is given to the problem of sampling. Continuing research services offered by Canadian commercial research firms will also be reviewed. Actual research reports will be the subject of class discussion. This course is operated in co-operation with the Advertising and Sales Executives Club of Montreal. (Half course.)

808 - Marketing 413. Retailing

Prerequisite: Marketing 211. Mature students who have a working knowledge of marketing methods and practices may be admitted without prerequisite. Of an introductory nature, the course is designed to develop in future marketing executives an appreciation of modern retailing practices and problems. The scope, importance, and characteristics of retailing in Canada, the fields of merchandise selection, inventory control, pricing, and retail promotion are given consideration. This course is operated in co-operation with the Advertising and Sales Executives Club of Montreal. (Half course.)

808 - Marketing 414. Sales Management

Prerequisite: Marketing 211. Mature students who have a working knowledge of marketing methods and practices may be admitted without prerequisite. Topics covered include the selection of salesmen, sales training, sales compensation, incentive and quota programmes, organisation of sales territories, setting of sales quotas, expense control. The case method is employed to illustrate the topics under discussion. This course is offered in co-operation with the Advertising and Sales Executives Club of Montreal. (Half course.)

COMMERCIAL MATHEMATICS**Commercial Mathematics 221. Commercial Algebra—See Finance 221.****Commercial Mathematics 231. Mathematics of Finance—See Finance 231.****Mathematics 241. Statistical and Graphical Methods—Listed in the Natural Sciences Division.****Honours in Economics**

Attention is called to the statement on honours on page 96.

Major in Accountancy**Major in Business Administration****Major in General Administration****Major in General Administration and Marketing****Major in Economics**

Attention is called to the statement on majors on page 100.

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**Announcements of Sir George Williams University and the
Sir George Williams Schools which may be obtained from
the Registrar.**

Sir George Williams University (Faculties of Arts, Science, Commerce, and Engineering, day and evening divisions).

Sir George Williams High School, evening division only.

Sir George Williams Elementary School, evening division only.

Sir George Williams Business School, day and evening divisions.

Sir George Williams School of Art, day and evening divisions.

Sir George Williams School of Retailing, day division only.

The Summer Term at Sir George Williams.

Special Summer Session in Sociology.

The Training of Y.M.C.A. Secretaries.